PB80-145683

Air Quality Impact of Proposed HDV Emission Standards - Summary of Results

Lois Platte

(U.S.) Environmental Protection Agency, Ann Arbor, MI

December 1979

U.S. Department of Commerce
National Technical Information Service
NTIS.

PB80-145683

EPA-AA-TAEB-80-7

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by

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Emission Control Technology Division
Office of Air, Noise, and Radiation
U.S. Environmental Protection Agency

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Technical

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This report presents the results of the estimated air quality impace of the proposed 1984 heavy-duty vehicle (HDV) emission standards for HC and CO. The proposed standards are based on a 90% reduction from the average emissions of the 1969 baseline fleet. In addition to the proposed standards, a no control case and two alternative control strategies were investigated. The assessment of the CO air quality impact of these scenarios was made using the Modified Rollback Model. Both the Rollback Model and EKMA were used for projecting ozone (O_3). This report focuses on the mobile source data assumptions that were used as input to the air quality assessment.

Air pollution
Trucks
Emission
Hydrocarbons
Carbon Monoxide
Ozone

UNLIMITED

UNCLASSFIED

UNCLASSIFIED

This report presents the results of the estimated air quality impact of the proposed 1984 heavy-duty vehicle (HDV) emission standards for HC and CO. The proposed standards are based on a 90% reduction from the average emissions of the 1969 baseline fleet. In addition to the proposed standards, a no control case and two alternative control strategies were investigated. The four scenarios that were examined are summarized below:

Case 1: No HDV standards beyond 1979 (base case).
Case 2: HDV standards reflecting 85% reduction.
(1.9/23.3 g/BHP-hr for HC/CO)
Case 3: HDV standards reflecting 90% reduction.
(1.3/15.5 g/BHP-hr for HC/CO)
Case 4: HDV standards reflecting 95% reduction.
(0.64/7.7 g/BHP-hr for HC/CO)

The assessment of the CO air quality impact of these scenarios was made using the Modified Rollback Model. Both the Rollback Model and EKMA were used for projecting ozone (O_3). The methodology used in these analyses is described in Reference 1. The data assumptions for the non-mobile emission sources also are outlined in that reference. This report focuses on the mobile source data assumptions that were used as input to the air quality assessment.

The mobile source composite emission factors for each of the control strategies were calculated using a modified version of MOBILE1. The majority of the MOBILE1 modifications dealt with revisions of the HDV emission factors. The HDV zero mileage emissions and deterioration rates were altered to be consistent with those given in Appendix A of HDV regulatory analysis package (Reference 2). MOBILE1 was further modified to reflect the proposed 1984 light-duty truck (LDT) regulations and the expected dieselization of LDTs. The explicit MOBILE1 modifications are documented in Reference 3.

For light-duty vehicles (LDVs), no MOBILE1 alterations were made in this analysis. The MOBILE1 inputs were set to the normal FTP conditions. I/M credits were applied to LDVs assuming a 30% stringency program with no mechanic training. The I/M program was applied to all model year LDVs and was assumed to start in 1982. The same I/M program benefits were applied to pre-1984 LDTs. For 1984 and later model year LDTs, I/M benefits were implicitly assumed in the equations presented in Appendix A of Reference 2.

The composite emission factors calculated by MOBILE1 are given in Tables 1-4 for each scenario. The tables give the composite non-methane HC (NMHC) and CO emission factors for the base year 1976 and each of the evaluation years 1980, 1985, 1990, 1995, 1999.

The 1976 calendar year composite emission factors from Tables 1-4 were used to develop the mobile source portion of the base year emission inventories. The emission factors for all other sources in the inventories were taken directly from the 1976 NEDS. The regions included in the emission inventories and air quality projections were selected by OAQPS. The selected areas represent most of the large urbanized regions that are located at low altitude (outside of California) and that have recorded violations of the ambient O_3 or CO standards. The base year regional inventories are given in Appendix A of this report.

The mobile source emission ratios that were used in projecting future year inventories and air quality are given in Tables 5 and 6 for NMHC and CO respectively. Each ratio represents the emission factor projected for a future calendar year divided by the 1976 base year emission factor for the comparable vehicle category and scenario.

For CO, the LDV and LDT vehicle miles traveled (VMT) growth rate used in the projections was assumed to be 1% compounded annually. This value was chosen to reflect the assumption that CO is generally a hot spot problem in areas where traffic density is near saturation and thus, growth is expected to be small. The NMHC inventory and O_3 air quality was projected using LDV and LDT growth rates of 2% compounded annually. A higher growth rate of 3% compounded annually was also included to give a range of VMT growth for the NMHC inventory and ozone analysis. These growth rates are consistent with the rates used in the analysis of the national air quality standard for O_3.

Growth rates of -2% per year for heavy-duty gas vehicles (HDGs) and 5% per year for heavy-duty diesel vehicles (HDDs) were used for both the NMHC and CO projections. These rates reflect the expected shift in sales from gasoline to diesel powered trucks and the resultant change in VMT. The derivation of these VMT growth rates is detailed in Appendix A of the HDV regulation package.

The stationary source growth rates, control assumptions, and contribution factors for this analysis were provided by OAQPS and are described in Reference 1.

The average percent reduction in ambient air quality concentrations from the 1976 base year are presented in Table 7 for ozone, and Table 8 for CO. Of course, the greatest air quality reductions are associated with the most stringent set of standards, the 95% reduction case. For the proposed regulations, the average reductions in CO ambient concentrations is 74% for calendar year 1999. The 2% growth rate assumption for LDTs and LDVs results in ozone reductions of 31-54% (EKMA vs. Rollback) for the proposed regulations for 1999. A range of 19-40% ozone reduction results when the 3% LDT and LDV growth rate is assumed for the same scenario. For comparison, the ambient CO percent reduction for the no further control case is 67% for 1999. The percent reductions are 29-52% at 2% growth or 18-39% at 3% growth for ozone in the 1999 no further control case.

The supporting region by region air quality projections for each pollutant and strategy are presented in Appendix B of this report. The projected total inventories for all the regions combined are presented in Appendix C.

References

1. Memo, "Data Assumptions and Methodology for Assessing the Air Quality Impact of Proposed HDV Emission Standards," W. Freas, November 3, 1979.

2. Regulatory Analysis of the Environmental Impact of the Final Emission Regulations of 1984 and Later Model Heavy-Duty Engines: Appendix A, U.S. Enviornmental Protection Agency, Ann Arbor, Michigan, December 11, 1979.

3. Memo, "MOBILE1 Modifications to Perform the Air Quality Analysis for Heavy-Duty Gaseous Emission Regulation Package," J. Wallace, December 4, 1979.

Table 1

Composite Emission Factors for Case 1: No Standards

EMISSION FACTOR MODIFICATION PROFILE:

REGION	MODE	POLLUTANT	FIRST MY	LAST MY	BASE	DEL	ALIENED
1	4	1	1979	1999	6.30	0.53	YES
1	4	2	1979	1999	210.00	6.15	YES
1	5	1	1979	1999	4.00	0.01	YES

*NON-METH HC EMISSION FACTORS INCLUDE EVAP. HC EMISSION FACTORS

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1976 TEMP: 75.0(F) 0.003/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982. STRINGENCY LEVEL 30%. MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	7.19	7.91	10.72	21.00	4.10	10.72	7.98
EXHAUST CO:	62.45	65.83	79.36	252.55	11.28	35.23	70.46
EXHAUST NOX:	3.50	3.47	5.54	10.80	20.92	0.14	4.46

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1980 TEMP: 75.0(F) 0.003/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982. STRINGENCY LEVEL 30%. MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	4.77	5.89	8.75	18.22	4.10	7.17	5.66
EXHAUST CO:	47.07	57.14	73.17	236.29	11.28	26.44	57.37
EXHAUST NOX:	2.66	2.73	4.71	10.36	20.25	0.26	3.66

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1985 TEMP: 75.0(F) 0.003/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982. STRINGENCY LEVEL 30%. MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.90	3.10	4.50	13.35	4.10	1.97	2.70
EXHAUST CO:	17.45	32.90	41.14	258.67	11.28	7.91	30.34
EXHAUST NOX:	1.41	2.31	3.20	9.31	18.49	0.47	2.77

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1990 TEMP: 75.0(F) 0.003/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982. STRINGENCY LEVEL 30%. MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.08	1.31	1.83	10.64	4.10	0.46	1.66
EXHAUST CO:	10.36	14.23	18.71	260.17	11.28	3.36	22.26
EXHAUST NOX:	1.54	1.79	2.24	7.20	8.59	0.18	2.11

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1995 TEMP: 75.0(F) 0.003/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982. STRINGENCY LEVEL 30%. MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.97	0.79	0.98	4.67	4.10	0.31	1.44
EXHAUST CO:	9.24	8.67	10.45	260.09	11.28	2.87	20.59
EXHAUST NOX:	1.57	1.76	1.99	6.74	5.93	0.16	1.97

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1999 TEMP: 75.0(F) 0.003/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982. STRINGENCY LEVEL 30%. MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.95	0.66	0.78	4.19	4.10	0.31	1.34
EXHAUST CO:	9.12	8.40	9.42	260.00	11.28	2.87	20.21
EXHAUST NOX:	1.57	1.79	1.95	6.72	5.53	0.16	1.95

Table 2

Composite Emission Factors for Case II: 85% Reduction

EMISSION FACTOR MODIFICATION PROFILE:

REGION	MODE	POLLUTANT	FIRST MY	LAST MY	BASE	DEL	ALTERED
1	9	1	1984	1999	3.80	0.01	YES

*NON-METH HC EMISSION FACTORS INCLUDE EVAP. HC EMISSION FACTORS

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1976 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	7.19	7.91	10.72	21.00	4.10	10.72	7.98
EXHAUST CO:	62.45	65.83	79.36	252.55	11.28	35.23	70.46
EXHAUST NOx:	3.50	3.47	5.54	10.80	20.82	0.14	4.46

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1980 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	4.77	5.89	8.75	18.22	4.10	7.17	5.66
EXHAUST CO:	47.07	57.14	73.17	256.29	11.28	26.44	57.37
EXHAUST NOx:	2.66	2.73	4.71	10.36	20.25	0.26	3.66

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1985 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.90	3.10	4.50	12.50	4.05	1.97	2.66
EXHAUST CO:	17.45	32.90	41.14	222.93	11.28	7.91	28.73
EXHAUST NOx:	1.81	2.31	3.20	9.31	18.49	0.47	2.77

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1990 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.08	1.31	1.83	6.40	3.93	0.46	1.46
EXHAUST CO:	10.30	14.23	18.71	110.40	11.28	3.36	15.52
EXHAUST NOx:	1.59	1.79	2.24	7.20	8.59	0.18	2.11

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1995 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.97	0.79	0.98	3.72	3.91	0.51	1.17
EXHAUST CO:	9.24	8.57	10.45	63.08	11.28	2.87	11.72
EXHAUST NOx:	1.57	1.76	1.99	6.71	5.35	0.16	1.97

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC

CAL. YEAR: 1999 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.95	0.66	0.70	2.70	3.91	0.51	1.09
EXHAUST CO:	9.12	6.80	7.42	44.97	11.28	2.87	10.64
EXHAUST NOx:	1.57	1.79	1.95	6.72	5.35	0.16	1.95

Table 3

Composite Emission Factors for Case III: 90% Reduction - Proposed Standard

*NON-METH HC EMISSION FACTORS INCLUDE EVAP. HC EMISSION FACTORS

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
CAL. YEAR: 1976 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	7.19	7.91	10.72	21.00	4.10	10.72	7.98
EXHAUST CO:	62.45	65.83	79.36	252.55	11.28	35.23	70.46
EXHAUST NOX:	3.50	3.47	5.54	10.80	20.82	0.14	4.46

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
CAL. YEAR: 1980 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	4.77	5.49	8.75	18.22	4.10	7.17	5.66
EXHAUST CO:	47.07	57.14	73.17	256.29	11.28	26.44	57.37
EXHAUST NOX:	2.66	2.73	4.71	10.36	20.25	0.26	3.66

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
CAL. YEAR: 1985 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.90	3.10	4.50	12.43	3.69	1.97	2.65
EXHAUST CO:	17.45	32.90	41.14	221.91	11.28	7.91	28.68
EXHAUST NOX:	1.81	2.31	3.20	9.31	18.49	0.47	2.77

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
CAL. YEAR: 1990 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.08	1.31	1.83	6.07	2.86	0.46	1.41
EXHAUST CO:	10.30	14.23	18.71	105.62	11.28	3.36	15.30
EXHAUST NOX:	1.59	1.79	2.24	7.20	8.59	0.18	2.11

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
CAL. YEAR: 1995 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.97	0.79	0.98	3.27	2.68	0.31	1.11
EXHAUST CO:	9.24	8.57	10.45	56.72	11.28	2.87	11.44
EXHAUST NOX:	1.57	1.76	1.99	6.74	5.95	0.16	1.97

VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
CAL. YEAR: 1999 TEMP: 75.0(F) 0.803/0.058/0.058/0.045/0.031/0.005
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.95	0.66	0.70	2.21	2.64	0.31	1.03
EXHAUST CO:	9.12	6.80	7.42	40.13	11.28	2.87	10.32
EXHAUST NOX:	1.57	1.74	1.95	6.72	5.53	0.16	1.95

Table 4

Composite Emission Factors for Case IV: 95% Reduction

EMISSION FACTOR MODIFICATION PROFILE:

REGION	MODE	POLLUTANT	FIRST MY	LAST MY	BASE	DEL	ALTERED
1	5	1	1984	1999	1.20	0.01	YES

*NON-METH HC EMISSION FACTORS INCLUDE EVAP. HC EMISSION FACTORS

CAL. YEAR: 1976 TEMP: 75.0(F) VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 0.803/0.058/0.058/0.045/0.031/0.005
20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	7.19	7.91	10.72	21.00	4.10	10.72	7.98
EXHAUST CO:	62.45	65.83	79.36	252.55	11.28	35.23	70.46
EXHAUST NOx:	3.50	3.47	5.54	10.80	20.82	0.14	4.46

CAL. YEAR: 1980 TEMP: 75.0(F) VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 0.803/0.058/0.058/0.045/0.031/0.005
20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	4.77	5.89	8.75	18.22	4.10	7.17	5.66
EXHAUST CO:	47.07	57.14	73.17	256.29	11.28	26.44	57.37
EXHAUST NOx:	2.66	2.73	4.71	10.36	20.25	0.26	3.66

CAL. YEAR: 1985 TEMP: 75.0(F) VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 0.803/0.058/0.058/0.045/0.031/0.005
20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.90	3.10	4.50	12.36	3.33	1.97	2.63
EXHAUST CO:	17.45	32.90	41.14	220.88	11.28	7.91	28.63
EXHAUST NOx:	1.81	2.31	3.20	9.31	18.49	0.47	2.77

CAL. YEAR: 1990 TEMP: 75.0(F) VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 0.803/0.058/0.058/0.045/0.031/0.005
20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	1.08	1.51	1.83	5.72	1.78	0.46	1.36
EXHAUST CO:	10.30	14.23	18.71	100.78	11.28	3.36	15.08
EXHAUST NOx:	1.59	1.79	2.24	7.20	8.59	0.18	2.11

CAL. YEAR: 1995 TEMP: 75.0(F) VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 0.803/0.058/0.058/0.045/0.031/0.005
20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.97	0.79	0.98	2.81	1.44	0.31	1.05
EXHAUST CO:	9.24	8.57	10.45	50.26	11.28	2.87	11.15
EXHAUST NOx:	1.57	1.76	1.99	6.74	5.95	0.16	1.97

CAL. YEAR: 1999 TEMP: 75.0(F) VEH. TYPE: LDV LDT1 LDT2 HDG HDD MC
REGION: 49-STATE 26.0/16.0/26.0 MPH (20.0) 0.803/0.058/0.058/0.045/0.031/0.005
20.6/ 27.3/ 20.6
LDV I/M PROGRAM STARTING IN 1982, STRINGENCY LEVEL 30%, MECH. TRAINING: NO
I/M PROG. BENEFITS APPLY ONLY TO MODEL YEARS 1951 THROUGH 1999

COMPOSITE EMISSION FACTORS (GM/MILE)

	LDV	LDT1	LDT2	HDG	HDD	MC	ALL MODES
NON-METH HC:	0.95	0.66	0.90	1.71	1.38	0.31	0.98
EXHAUST CO:	9.12	6.80	7.42	33.18	11.28	2.82	10.00
EXHAUST NOx:	1.57	1.79	1.95	6.42	5.53	0.16	1.95

Table 5

Hydrocarbon-Emission Factor Ratios

Heavy-Duty Vehicle Ratios x 100

Strategy	Projection Year	HDG	HDD
No Standard	80	87	100
	85	64	100
	90	51	100
	95	46	100
	99	44	100
85% Reduction	80	87	100
	85	60	99
	90	30	96
	95	18	95
	99	13	95
90% Reduction	80	87	100
	85	59	90
	90	29	70
	95	16	65
	99	11	64
95% Reduction	80	87	100
	85	59	81
	90	27	43
	95	13	35
	99	8	34

Light-Duty Vehicle Ratios x 100

Year	LDV	LDT
80	66	79
85	26	41
90	15	17
95	13	10
99	13	7

Table 6

Carbon Monoxide - Emission Factor Ratios

Heavy-Duty Vehicle Ratios x 100

Strategy	Projection Year	HDG	HDD
No Standard	80	101	100
	85	102	100
	90	103	100
	95	103	100
	99	103	100
85% Reduction	80	101	100
	85	88	100
	90	44	100
	95	25	100
	99	19	100
90% Reduction	80	101	100
	85	88	100
	90	42	100
	95	22	100
	99	16	100
95% Reduction	80	101	100
	85	87	100
	90	40	100
	95	20	100
	99	13	100

Light-Duty Vehicle Ratios x 100

Year	LDV	LDT
80	75	90
85	28	51
90	16	23
95	15	13
99	15	10

Table 7

Average Percent Reduction in
Expected Oxidant Concentrations
From 1976 Base Year

Linear Rollback

Strategy	LDV/LDT Growth Rate (%)	Projection Year 1980	1985	1990	1995	1999
No Standard	2	13	49	54	54	52
85% Reduction	2	13	49	54	54	53
90% Reduction	2	13	49	55	55	54
95% Reduction	2	13	49	55	56	55
No Standard	3	11	45	47	43	39
85% Reduction	3	11	45	47	44	40
90% Reduction	3	11	45	48	45	40
95% Reduction	3	11	45	48	46	41

EKMA with 9.5:1 NMHC/NOx

Strategy	LDV/LDT Growth Rate (%)	Projection Year 1980	1985	1990	1995	1999
No Standard	2	7	25	30	31	29
85% Reduction	2	7	25	31	31	30
90% Reduction	2	7	25	32	32	31
95% Reduction	2	7	25	32	33	32
No Standard	3	6	21	23	21	18
85% Reduction	3	6	21	24	21	18
90% Reduction	3	6	21	24	22	19
95% Reduction	3	6	21	25	23	19

Table 8

Average Percent Reduction in Second
Maximum 8-Hour Carbon Monoxide
Ambient Concentrations from 1976 Base Year

Linear Rollback

Strategy	Projection Year 1980	1985	1990	1995	1999
No Standard	16	53	65	67	67
85% Reduction	16	54	70	73	73
90% Reduction	16	54	70	74	74
95% Reduction	16	54	71	74	74

APPENDIX A

BASE YEAR REGIONAL INVENTORIES

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS DATE 120474

LINEAR ROLLBACK

STRATEGY: 1 NO STD GROWTH RATE SCENARIO: 1 LO

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

PROJECTED

	BASE			1980		1985		1990		1995		1999	
REGION	YEAR	CONC	NMHC	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.000	.13	1	.09	0	.08	0	.08	0	.09	0
041E.CONNECTICUT	1976	.23	.000	.20	11	.11	0	.10	0	.09	0	.09	0
042HARTFORD-NEW HA	1976	.27	.000	.23	21	.13	1	.12	0	.12	0	.12	0
043NYC-NJ-CONN	1976	.24	.000	.21	15	.12	0	.11	0	.11	0	.11	0
045PHILADELPHIA	1976	.26	.000	.23	19	.12	0	.11	0	.11	0	.12	0
047NAT.CAPITAL	1976	.19	.000	.16	5	.09	0	.08	0	.07	0	.08	0
067CHICAGO	1976	.20	.000	.18	7	.10	0	.09	0	.09	0	.09	0
070ST. LOUIS	1976	.23	.000	.20	12	.11	0	.09	0	.09	0	.10	0
078LOUISVILLE.KY	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.09	0
079CINCINNATI	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
099S.CENT. KANSAS	1976	.17	.000	.15	4	.09	0	.08	0	.08	0	.08	0
106S. LA - SE TEXA	1976	.19	.000	.18	7	.10	0	.11	0	.12	0	.13	1
115BALTIMORE	1976	.23	.000	.20	12	.11	0	.10	0	.10	0	.10	0
118CET. MASS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
120PROVIDENCE.RI	1976	.19	.000	.16	5	.09	0	.08	0	.08	0	.08	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
123DETROIT	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
151NE PA - DEL VAL	1976	.23	.000	.20	13	.12	0	.11	0	.11	0	.11	0
153EL PASO	1976	.16	.000	.13	1	.08	0	.07	0	.07	0	.07	0
162BUFFALO	1976	.16	.000	.14	2	.08	0	.08	0	.08	0	.08	0
173DAYTON	1976	.18	.000	.16	4	.09	0	.09	0	.09	0	.09	0
174CLEVELAND	1976	.19	.000	.17	7	.11	0	.10	0	.11	0	.11	0
176COLUMBUS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	6	.10	0	.09	0	.09	0	.10	0
196S.CENTRAL PA	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
197SOUTH WEST PA	1976	.18	.000	.16	4	.09	0	.09	0	.09	0	.09	0
208NASHVILLE. TN R	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.08	0	.07	0	.07	0	.07	0
216HOUSTON	1976	.26	.000	.24	23	.14	2	.15	3	.16	5	.18	7
225RICHMOND. VA	1976	.17	.000	.15	3	.08	0	.08	0	.08	0	.08	0
239SE WISCONSIN	1976	.23	.000	.21	14	.12	0	.11	0	.11	0	.11	0
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.07	0
015PHOENIX-TUCSON	1976	.14	.000	.12	0	.08	0	.07	0	.08	0	.08	0
016C.ARKANSAS	1976	.13	.000	.11	0	.07	0	.07	0	.06	0	.07	0
018MEMPHIS	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
022SHREVEPORT	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.07	0
049JACKSONVILLE.FL	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
073ROCKFORD.ILL.	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
122CENT.MICH	1976	.13	.000	.11	0	.06	0	.06	0	.06	0	.06	0
124TOLEDO	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

12MSE MINN-LA CROS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
167CHARLOTTE,NC	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
186TULSA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
193PORTLAND, OR	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.07	0
195CENTRAL PA	1976	.13	.000	.11	0	.06	0	.06	0	.06	0	.06	0
200COLUMBIA, SC	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.07	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.07	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.06	0	.06	0	.05	0	.06	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.07	0	.07	0	.07	0

AVERAGE PERCENT CHANGE	-13.	-44.	-54.	-54.	-52.
NO. OF CITIES ABOVE STD	37	2	1	1	2
TOTAL NO. OF VIOLATIONS	232	3	3	5	8

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

LINEAR ROLLBACK

STRATEGY: 1 NO STD GROWTH RATE SCENARIO: 2 HI

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

	BASE			PROJECTED									
				1980		1985		1990		1995		1999	
REGION	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.000	.14	2	.10	0	.10	0	.11	0	.12	0
041E.CONNECTICUT	1976	.23	.000	.20	13	.12	0	.11	0	.11	0	.12	0
042HARTFORD-NEW HA	1976	.27	.000	.24	22	.14	2	.13	1	.14	2	.15	3
043NYC-NJ-CONN	1976	.24	.000	.22	16	.13	1	.12	0	.13	1	.14	2
045PHILADELPHIA	1976	.26	.000	.23	21	.13	1	.12	0	.13	1	.15	3
047NAT.CAPITAL	1976	.19	.000	.16	5	.10	0	.09	0	.09	0	.10	0
067CHICAGO	1976	.20	.000	.18	8	.11	0	.10	0	.11	0	.11	0
070ST. LOUIS	1976	.23	.000	.20	13	.12	0	.11	0	.11	0	.12	0
078LOUISVILLE,KY	1976	.17	.000	.15	4	.10	0	.10	0	.11	0	.12	0
079CINCINNATI	1976	.17	.000	.15	4	.10	0	.09	0	.10	0	.10	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
099S.CENT. KANSAS	1976	.17	.000	.16	4	.10	0	.09	0	.10	0	.10	0
106S. LA - SE TEXA	1976	.19	.000	.18	8	.12	0	.13	1	.15	3	.17	7
115BALTIMORE	1976	.23	.000	.20	13	.12	0	.12	0	.12	0	.13	1
118CET. MASS	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.08	0	.08	0	.09	0
120PROVIDENCE,RI	1976	.19	.000	.17	6	.10	0	.09	0	.10	0	.10	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
123DETROIT	1976	.18	.000	.16	5	.10	0	.09	0	.10	0	.10	0
151NE PA - DEL VAL	1976	.23	.000	.21	14	.13	1	.12	0	.13	1	.14	2
153EL PASO	1976	.16	.000	.14	2	.09	0	.08	0	.09	0	.10	0
162BUFFALO	1976	.16	.000	.14	2	.09	0	.09	0	.09	0	.10	0
173DAYTON	1976	.18	.000	.16	5	.10	0	.10	0	.10	0	.11	0
174CLEVELAND	1976	.19	.000	.18	8	.12	0	.12	0	.13	1	.14	3
176COLUMBUS	1976	.16	.000	.14	2	.09	0	.08	0	.09	0	.09	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	7	.11	0	.11	0	.12	0	.12	0
196S.CENTRAL PA	1976	.18	.000	.16	5	.10	0	.09	0	.10	0	.10	0
197SOUTH WEST PA	1976	.18	.000	.16	5	.10	0	.10	0	.11	0	.12	0
208NASHVILLE, TN H	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.09	0
216HOUSTON	1976	.26	.000	.25	25	.16	4	.18	7	.21	14	.24	22
225RICHMOND, VA	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
239SE WISCONSIN	1976	.23	.000	.21	15	.13	1	.13	1	.13	1	.13	1
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.07	0	.08	0	.08	0
015PHOENIX-TUCSON	1976	.14	.000	.13	1	.09	0	.09	0	.09	0	.10	0
016C.ARKANSAS	1976	.13	.000	.12	0	.08	0	.08	0	.08	0	.09	0
018MEMPHIS	1976	.14	.000	.13	1	.08	0	.08	0	.09	0	.10	0
022SHREVEPORT	1976	.14	.000	.13	1	.08	0	.07	0	.08	0	.09	0
049JACKSONVILLE,FL	1976	.13	.000	.12	0	.08	0	.08	0	.08	0	.09	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
073ROCKFORD,ILL.	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
122CENT.MICH	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
124TOLEDO	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

12HSE MINN-LA CROS	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.08	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.08	0	.08	0	.09	0	.10	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
167CHARLOTTE,NC	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0
186TULSA	1976	.14	.000	.12	0	.08	0	.07	0	.08	0	.08	0
193PORTLAND, OR	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.09	0
195CENTRAL PA	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
200COLUMBIA, SC	1976	.14	.000	.13	1	.09	0	.09	0	.09	0	.09	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.08	0	.07	0	.08	0	.09	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.07	0	.08	0	.07	0	.07	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0

AVERAGE PERCENT CHANGE	-11.	-45.	-47.	-43.	-39.
NO. OF CITIES ABOVE STD	43	6	4	8	9
TOTAL NO. OF VIOLATIONS	263	10	10	24	44

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120474

LINEAR ROLLBACK

STRATEGY: 2 YEAR REV GROWTH RATE SCENARIO: 1 LO

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

REGION	PAST YEAR	PAST CONC	PAST NUMB	PROJECTED 1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
005MOBILE-PENSACOL	1976	.15	.000	.13	1	.09	0	.08	0	.08	0	.08	0
041E.CONNECTICUT	1976	.23	.000	.20	11	.11	0	.09	0	.09	0	.09	0
042HARTFORD-NEW HA	1976	.27	.000	.23	21	.13	1	.12	0	.11	0	.12	0
043NYC-NJ-CONN	1976	.24	.000	.21	15	.12	0	.11	0	.11	0	.11	0
045PHILADELPHIA	1976	.26	.000	.23	19	.12	0	.11	0	.11	0	.11	0
047NAT.CAPITAL	1976	.19	.000	.16	5	.09	0	.07	0	.07	0	.07	0
067CHICAGO	1976	.20	.000	.18	7	.10	0	.09	0	.09	0	.09	0
070ST. LOUIS	1976	.23	.000	.20	12	.11	0	.09	0	.09	0	.09	0
078LOUISVILLE.KY	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.09	0
079CINCINNATI	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
099S.CENT. KANSAS	1976	.17	.000	.15	4	.09	0	.08	0	.08	0	.08	0
106S. LA - SE TEXA	1976	.19	.000	.18	7	.10	0	.11	0	.12	0	.13	1
115BALTIMORE	1976	.23	.000	.20	12	.11	0	.10	0	.10	0	.10	0
118CET. MASS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
120PROVIDENCE.RI	1976	.19	.000	.16	5	.09	0	.08	0	.08	0	.08	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
123DETROIT	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
151NE PA - DEL VAL	1976	.23	.000	.20	13	.12	0	.10	0	.10	0	.11	0
153EL PASO	1976	.16	.000	.13	1	.08	0	.07	0	.07	0	.07	0
162BUFFALO	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.08	0
173DAYTON	1976	.18	.000	.16	4	.09	0	.09	0	.08	0	.09	0
174CLEVELAND	1976	.19	.000	.17	7	.11	0	.10	0	.11	0	.11	0
176COLUMBUS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	6	.10	0	.09	0	.09	0	.10	0
196S.CENTRAL PA	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
197SOUTH WEST PA	1976	.18	.000	.16	4	.09	0	.09	0	.09	0	.09	0
208NASHVILLE. TN M	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.08	0	.07	0	.07	0	.07	0
216HOUSTON	1976	.26	.000	.24	23	.14	2	.15	3	.16	5	.17	7
225RICHMOND. VA	1976	.17	.000	.15	3	.08	0	.08	0	.08	0	.08	0
239SE WISCONSIN	1976	.23	.000	.21	14	.12	0	.11	0	.11	0	.11	0
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
015PHOENIX-TUCSON	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
016C.ARKANSAS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.07	0
018MEMPHIS	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
022SHREVEPORT	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.07	0
049JACKSONVILLE.FL	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
073ROCKFORD.ILL.	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
122CENT.MICH	1976	.13	.000	.11	0	.06	0	.06	0	.06	0	.06	0
124TOLEDO	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

128SE MINN-LA C-OS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
167CHARLOTTE.NC	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
186TULSA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
193PORTLAND. OR	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.07	0
195CENTRAL PA	1976	.13	.000	.11	0	.06	0	.06	0	.06	0	.06	0
200COLUMBIA. SC	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.07	0
217SAN ANTONIO. TX	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
223HAMTON RDS. VA	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.07	0
229PUGET SOUND. WA	1976	.13	.000	.11	0	.06	0	.05	0	.05	0	.05	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.07	0	.07	0	.07	0

AVERAGE PERCENT CHANGE	-13.	-41.	-54.	-54.	-51.
NO. OF CITIES ABOVE STD	37	2	1	1	2
TOTAL NO. OF VIOLATIONS	232	3	3	5	8

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

LINEAR ROLLBACK

STRATEGY: 2 PPM HC/ GROWTH RATE SCENARIO: 1 MI

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

PROJECTED

REGION	BASE YEAR	BASE CONC	BASE NUMB	1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
005MOBILE-PENSACOL	1976	.15	.000	.14	2	.10	0	.10	0	.11	0	.12	0
041E.CONNECTICUT	1976	.23	.000	.20	13	.12	0	.11	0	.11	0	.12	0
042HARTFORD-NEW HA	1976	.27	.000	.24	22	.14	2	.13	1	.14	2	.14	3
043NYC-NJ-CONN	1976	.24	.000	.22	18	.13	1	.12	0	.13	1	.14	1
045PHILADELPHIA	1976	.25	.000	.23	21	.13	1	.12	0	.13	1	.14	2
047NAT.CAPITAL	1976	.19	.000	.16	5	.10	0	.09	0	.09	0	.09	0
067CHICAGO	1976	.20	.000	.18	8	.10	0	.10	0	.10	0	.11	0
070ST. LOUIS	1976	.23	.000	.20	13	.11	0	.10	0	.11	0	.12	0
078LOUISVILLE,KY	1976	.17	.000	.15	4	.10	0	.10	0	.11	0	.11	0
079CINCINNATI	1976	.17	.000	.15	4	.10	0	.09	0	.10	0	.10	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.09	0
099S.CENT. KANSAS	1976	.17	.000	.16	4	.10	0	.09	0	.10	0	.10	0
106S. LA - SE TEXA	1976	.19	.000	.18	8	.12	0	.13	1	.15	3	.17	7
115BALTIMORE	1976	.23	.000	.20	13	.12	0	.11	0	.12	0	.13	1
118CET. MASS	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.08	0	.08	0	.08	0
120PROVIDENCE,RI	1976	.19	.000	.17	5	.10	0	.09	0	.10	0	.10	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
123DETROIT	1976	.18	.000	.16	5	.10	0	.09	0	.09	0	.10	0
151NE PA - DEL VAL	1976	.23	.000	.21	14	.13	1	.12	0	.13	1	.13	1
153EL PASO	1976	.16	.000	.14	2	.09	0	.08	0	.09	0	.09	0
162BUFFALO	1976	.16	.000	.14	2	.09	0	.09	0	.09	0	.10	0
173DAYTON	1976	.18	.000	.16	5	.10	0	.10	0	.10	0	.11	0
174CLEVELAND	1976	.19	.000	.18	8	.12	0	.12	0	.13	1	.14	2
176COLUMBUS	1976	.16	.000	.14	2	.09	0	.09	0	.09	0	.09	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	7	.11	0	.11	0	.11	0	.12	0
196S.CENTRAL PA	1976	.18	.000	.16	5	.10	0	.09	0	.10	0	.10	0
197SOUTH WEST PA	1976	.18	.000	.16	5	.10	0	.10	0	.11	0	.12	0
208NASHVILLE, TN M	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.09	0
216HOUSTON	1976	.26	.000	.25	25	.16	4	.17	7	.20	14	.24	22
225RICHMOND, VA	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
239SE WISCONSIN	1976	.23	.000	.21	15	.13	1	.12	0	.13	1	.13	1
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.07	0	.08	0	.08	0
015PHOENIX-TUCSON	1976	.14	.000	.13	1	.09	0	.09	0	.09	0	.10	0
016C.ARKANSAS	1976	.13	.000	.12	0	.08	0	.08	0	.08	0	.09	0
018MEMPHIS	1976	.14	.000	.13	1	.08	0	.08	0	.09	0	.09	0
022SHREVEPORT	1976	.14	.000	.13	1	.08	0	.07	0	.08	0	.09	0
049JACKSONVILLE,FL	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.08	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.08	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
073ROCKFORD,ILL.	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
122CENT.MICH	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
124TOLEDO	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

128SE MINN-LA CROS	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.08	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.08	0	.08	0	.09	0	.10	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.08	0	.07	0	.07	0
167CHARLOTTE,NC	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0
186TULSA	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
193PORTLAND, OR	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.09	0
195CENTRAL PA	1976	.13	.000	.12	0	.07	0	.08	0	.07	0	.07	0
200COLUMBIA, SC	1976	.14	.000	.13	1	.09	0	.09	0	.09	0	.09	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.08	0	.07	0	.08	0	.09	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.07	0	.08	0	.07	0	.07	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0

AVERAGE PERCENT CHANGE	-11.	-45.	-47.	-44.	-40.
NO. OF CITIES ABOVE STD	43	6	4	8	9
TOTAL NO. OF VIOLATIONS	263	10	4	24	40

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

L I N E A R R O L L B A C K

STRATEGY: 3 90% RED GROWTH RATE SCENARIO: 1 LO

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

P R O J E C T E D

	BASE		1980		1985		1990		1995		1999	
R E G I O N	YEAR	CONC	BASD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.000	.13	1	.09	0	.08	0	.08	0	.08	0
041E.CONNECTICUT	1976	.23	.000	.20	11	.11	0	.09	0	.09	0	.09	0
042HARTFORD-NEW HA	1976	.27	.000	.23	21	.13	1	.12	0	.11	0	.12	0
043NYC-NJ-CONN	1976	.24	.000	.21	15	.12	0	.11	0	.11	0	.11	0
045PHILADELPHIA	1976	.26	.000	.23	19	.12	0	.11	0	.11	0	.11	0
047NAT.CAPITAL	1976	.19	.000	.16	5	.09	0	.07	0	.07	0	.07	0
067CHICAGO	1976	.20	.000	.18	7	.10	0	.09	0	.09	0	.09	0
070ST. LOUIS	1976	.23	.000	.20	12	.11	0	.09	0	.09	0	.09	0
078LOUISVILLE,KY	1976	.17	.000	.15	3	.09	0	.08	0	.09	0	.09	0
079CINCINNATI	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.08	0	.07	0	.07	0
099S.CENT. KANSAS	1976	.17	.000	.15	4	.09	0	.08	0	.08	0	.08	0
106S. LA - SE TEXA	1976	.19	.000	.18	7	.10	0	.11	0	.12	0	.12	0
115BALTIMORE	1976	.23	.000	.20	12	.11	0	.10	0	.10	0	.10	0
118CET. MASS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
120PROVIDENCE,RI	1976	.19	.000	.16	5	.09	0	.08	0	.08	0	.08	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
123DETROIT	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
151NE PA - DEL VAL	1976	.23	.000	.20	13	.12	0	.10	0	.10	0	.11	0
153EL PASO	1976	.16	.000	.13	1	.08	0	.07	0	.07	0	.07	0
162BUFFALO	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.08	0
173DAYTON	1976	.18	.000	.16	4	.09	0	.09	0	.08	0	.08	0
174CLEVELAND	1976	.19	.000	.17	7	.11	0	.10	0	.11	0	.11	0
176COLUMBUS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	6	.10	0	.09	0	.09	0	.09	0
196S.CENTRAL PA	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
197SOUTH WEST PA	1976	.18	.000	.16	4	.09	0	.08	0	.09	0	.09	0
208NASHVILLE, TN H	1976	.17	.000	.15	3	.09	0	.08	0	.07	0	.08	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.08	0	.07	0	.07	0	.07	0
216HOUSTON	1976	.26	.000	.24	23	.14	2	.15	3	.16	5	.17	7
225RICHMOND, VA	1976	.17	.000	.15	3	.08	0	.07	0	.07	0	.08	0
239SE WISCONSIN	1976	.23	.000	.21	14	.12	0	.11	0	.11	0	.11	0
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
015PHOENIX-TUCSON	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.07	0
016C.ARKANSAS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
018MEMPHIS	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
022SHREVEPORT	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.07	0
049JACKSONVILLE,FL	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.06	0	.05	0	.06	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
073ROCKFORD,ILL.	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
122CENT.MICH	1976	.13	.000	.11	0	.06	0	.06	0	.06	0	.06	0
124TOLEDO	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

128SE MINN-LA CROS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
167CHARLOTTE,NC	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
186TULSA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
193PORTLAND, OR	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
195CENTRAL PA	1976	.13	.000	.11	0	.06	0	.06	0	.05	0	.06	0
200COLUMBIA, SC	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.07	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.06	0	.05	0	.05	0	.05	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.07	0	.06	0	.07	0

AVERAGE PERCENT CHANGE	-13.	-49.	-55.	-55.	-54.
NO. OF CITIES ABOVE STD	37	2	1	1	1
TOTAL NO. OF VIOLATIONS	232	3	3	5	7

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120474

LINEAR ROLLBACK

STRATEGY: 3 90% RED GROWTH RATE SCENARIO: 2 MI

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

PROJECTED

	BASE		1980		1985		1990		1995		1999	
REGION	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.000	.14	2	.10	0	.10	0	.11	0	.12	0
041E.CONNECTICUT	1976	.23	.000	.20	13	.12	0	.11	0	.11	0	.12	0
042HARTFORD-NEW HA	1976	.21	.000	.24	22	.14	2	.13	1	.13	1	.14	2
043NYC-NJ-CONN	1976	.24	.000	.22	16	.13	1	.12	0	.13	1	.13	1
045PHILADELPHIA	1976	.26	.000	.23	21	.13	1	.12	0	.13	1	.14	2
047NAT.CAPITAL	1976	.19	.000	.16	5	.10	0	.09	0	.09	0	.09	0
067CHICAGO	1976	.20	.000	.16	8	.10	0	.10	0	.10	0	.11	0
070ST. LOUIS	1976	.23	.000	.20	13	.11	0	.10	0	.11	0	.12	0
078LOUISVILLE,KY	1976	.17	.000	.15	4	.10	0	.10	0	.10	0	.11	0
079CINCINNATI	1976	.17	.000	.15	4	.09	0	.09	0	.09	0	.10	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.09	0
099S.CENT. KANSAS	1976	.17	.000	.16	4	.10	0	.09	0	.10	0	.10	0
106S. LA - SE TEXA	1976	.19	.000	.18	8	.12	0	.13	1	.15	3	.17	6
115BALTIMORE	1976	.23	.000	.20	13	.12	0	.11	0	.12	0	.13	1
118CET. MASS	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.08	0	.08	0	.08	0
120PROVIDENCE,RI	1976	.19	.000	.17	5	.10	0	.09	0	.09	0	.10	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
123DETROIT	1976	.18	.000	.16	5	.10	0	.09	0	.09	0	.10	0
151NE PA - DEL VAL	1976	.23	.000	.21	14	.13	1	.12	0	.12	0	.13	1
153EL PASO	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
162BUFFALO	1976	.16	.000	.14	2	.09	0	.08	0	.09	0	.10	0
173DAYTON	1976	.18	.000	.16	5	.10	0	.10	0	.10	0	.11	0
174CLEVELAND	1976	.19	.000	.18	8	.12	0	.12	0	.13	1	.14	2
176COLUMBUS	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	7	.11	0	.11	0	.11	0	.12	0
196S.CENTRAL PA	1976	.18	.000	.16	5	.10	0	.09	0	.10	0	.10	0
197SOUTH WEST PA	1976	.18	.000	.16	5	.10	0	.10	0	.10	0	.11	0
208NASHVILLE, TN H	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
213DALLAS-FT.WORTH	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.09	0
216HOUSTON	1976	.26	.000	.25	25	.16	4	.17	7	.20	14	.24	21
225RICHMOND, VA	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
239SE WISCONSIN	1976	.23	.000	.21	15	.13	1	.12	0	.13	1	.13	1
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.07	0	.08	0	.08	0
015PHOENIX-TUCSON	1976	.14	.000	.13	1	.09	0	.09	0	.09	0	.10	0
016C.ARKANSAS	1976	.13	.000	.12	0	.08	0	.08	0	.08	0	.09	0
018MEMPHIS	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0
022SHREVEPORT	1976	.14	.000	.13	1	.08	0	.07	0	.08	0	.08	0
049JACKSONVILLE,FL	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.08	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.08	0	.07	0	.07	0
073ROCKFORD,ILL.	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
122CENT.MICH	1976	.13	.000	.12	0	.07	0	.08	0	.07	0	.07	0
124TOLEDO	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

128SE MINN-LA CROS	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.08	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.08	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.08	0	.08	0	.09	0	.10	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.06	0	.07	0	.07	0
167CHARLOTTE,NC	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0
186TULSA	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
193PORTLAND, OR	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.08	0
195CENTRAL PA	1976	.13	.000	.12	0	.07	0	.06	0	.07	0	.07	0
200COLUMBIA, SC	1976	.14	.000	.13	1	.09	0	.08	0	.08	0	.09	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.08	0	.07	0	.08	0	.08	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.07	0	.06	0	.07	0	.07	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0

AVERAGE PERCENT CHANGE	-11.	-45.	-48.	-45.	-40.
NO. OF CITIES ABOVE STD	43	6	3	7	9
TOTAL NO. OF VIOLATIONS	283	10	9	22	37

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

L I N E A R R O L L B A C K

STRATEGY: 4 95% REG GROWTH RATE SCENARIO: 1 LO

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

P R O J E C T E D

	BASE		1980		1985		1990		1995		1999	
REGION	YEAR	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.000	.13	1	.09	0	.08	0	.08	0	.08	0
041E.CONNECTICUT	1976	.23	.000	.20	11	.11	0	.09	0	.09	0	.09	0
042HARTFORD-NEW HA	1976	.27	.000	.23	21	.13	1	.12	0	.11	0	.11	0
043NYC-NJ-CONN	1976	.24	.000	.21	15	.12	0	.11	0	.10	0	.11	0
045PHILADELPHIA	1976	.26	.000	.23	19	.12	0	.11	0	.11	0	.11	0
047NAT.CAPITAL	1976	.19	.000	.16	5	.09	0	.07	0	.07	0	.07	0
067CHICAGO	1976	.20	.000	.18	7	.10	0	.09	0	.08	0	.09	0
070ST. LOUIS	1976	.23	.000	.20	12	.11	0	.09	0	.09	0	.09	0
078LOUISVILLE.KY	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.09	0
079CINCINNATI	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.08	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.07	0	.07	0	.07	0
099S.CENT. KANSAS	1976	.17	.000	.15	4	.09	0	.08	0	.08	0	.08	0
106S. LA - SE TEXA	1976	.19	.000	.18	7	.10	0	.11	0	.11	0	.12	0
115BALTIMORE	1976	.23	.000	.20	12	.11	0	.10	0	.10	0	.10	0
118CET. MASS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
120PROVIDENCE.RI	1976	.19	.000	.16	5	.09	0	.08	0	.08	0	.08	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.08	0	.07	0	.08	0
123DETROIT	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
151NE PA - DEL VAL	1976	.23	.000	.20	13	.12	0	.10	0	.10	0	.10	0
153EL PASO	1976	.16	.000	.13	1	.08	0	.07	0	.06	0	.06	0
162BUFFALO	1976	.15	.000	.14	2	.08	0	.07	0	.07	0	.07	0
173DAYTON	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
174CLEVELAND	1976	.19	.000	.17	7	.11	0	.10	0	.11	0	.11	0
176COLUMBUS	1976	.16	.000	.14	2	.08	0	.07	0	.07	0	.07	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	5	.10	0	.09	0	.09	0	.09	0
196S.CENTRAL PA	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.08	0
197SOUTH WEST PA	1976	.18	.000	.16	4	.09	0	.08	0	.08	0	.09	0
208NASHVILLE, TN H	1976	.17	.000	.15	3	.09	0	.07	0	.07	0	.07	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.08	0	.07	0	.07	0	.07	0
216HOUSTON	1976	.26	.000	.24	23	.14	2	.15	3	.16	4	.17	7
225RICHMOND, VA	1976	.17	.000	.15	3	.08	0	.07	0	.07	0	.08	0
239SE WISCONSIN	1976	.23	.000	.21	14	.12	0	.11	0	.11	0	.11	0
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
015PHOENIX-TUCSON	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.07	0
016C.ARKANSAS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
018MEMPHIS	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
022SHREVEPORT	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
049JACKSONVILLE.FL	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
073ROCKFORD.ILL.	1976	.14	.000	.12	0	.07	0	.06	0	.06	0	.06	0
122CENT.MICH	1976	.13	.000	.11	0	.06	0	.06	0	.06	0	.06	0
124TOLEDO	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

128SE MINN-IA CROS	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.06	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.07	0	.05	0	.05	0	.05	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.07	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.05	0	.05	0	.05	0
167CHARLOTTE,NC	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
186TULSA	1976	.14	.000	.12	0	.07	0	.05	0	.06	0	.05	0
193PORTLAND, OR	1976	.13	.000	.11	0	.07	0	.05	0	.06	0	.05	0
195CENTRAL PA	1976	.13	.000	.11	0	.06	0	.06	0	.05	0	.05	0
200COLUMBIA, SC	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.07	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.07	0	.06	0	.06	0	.06	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.06	0	.05	0	.05	0	.05	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.06	0	.06	0	.06	0

AVERAGE PERCENT CHANGE		-14.	-49.	-55.	-56.	-55.
NO. OF CITIES ABOVE STD		37	2	1	1	1
TOTAL NO. OF VIOLATIONS		232	3	3	4	7

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

L I N E A R R O L L B A C K

STRATEGY: @ 95% REG GROWTH RATE SCENARIO: 2 MI

03 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)

P R O J E C T E D

	BASE		1980		1985		1990		1995		1999	
R E G I O N	YEAR	CONC	DEGO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.000	.14	2	.10	0	.10	0	.11	0	.12	0
041E.CONNECTICUT	1976	.23	.000	.20	13	.12	0	.11	0	.11	0	.12	0
042HARTFORD-NEW HA	1976	.21	.000	.24	22	.14	2	.13	1	.13	1	.14	2
043NYC-NJ-CONN	1976	.24	.000	.22	16	.13	1	.12	0	.12	0	.13	1
045PHILADELPHIA	1976	.26	.000	.23	21	.13	1	.12	0	.13	1	.14	2
047NAT.CAPITAL	1976	.19	.000	.16	5	.10	0	.08	0	.08	0	.09	0
067CHICAGO	1976	.20	.000	.16	8	.10	0	.10	0	.10	0	.11	0
070ST. LOUIS	1976	.23	.000	.20	13	.11	0	.10	0	.11	0	.11	0
078LOUISVILLE,KY	1976	.17	.000	.15	4	.10	0	.10	0	.10	0	.11	0
079CINCINNATI	1976	.17	.000	.15	4	.09	0	.09	0	.09	0	.10	0
080INDIANAPOLIS	1976	.17	.000	.15	3	.09	0	.08	0	.09	0	.09	0
099S.CENT. KANSAS	1976	.17	.000	.16	4	.10	0	.09	0	.10	0	.10	0
106S. LA - SE TEXA	1976	.19	.000	.18	8	.12	0	.13	1	.15	3	.17	6
115BALTIMORE	1976	.23	.000	.20	13	.12	0	.11	0	.12	0	.13	1
118CENT. MASS	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
119BOSTON	1976	.16	.000	.14	2	.08	0	.08	0	.08	0	.08	0
120PROVIDENCE,RI	1976	.19	.000	.17	6	.10	0	.09	0	.09	0	.10	0
121MERRIMACK VAL	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
123DETROIT	1976	.18	.000	.16	5	.10	0	.09	0	.09	0	.10	0
151NE PA - DEL VAL	1976	.23	.000	.21	14	.13	1	.12	0	.12	0	.13	1
153EL PASO	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
162BUFFALO	1976	.16	.000	.14	2	.09	0	.08	0	.09	0	.09	0
173DAYTON	1976	.18	.000	.16	5	.10	0	.10	0	.10	0	.10	0
174CLEVELAND	1976	.19	.000	.18	8	.12	0	.12	0	.13	1	.14	2
176COLUMBUS	1976	.16	.000	.14	2	.09	0	.08	0	.08	0	.09	0
178NW PA-YOUNGSTWN	1976	.19	.000	.17	7	.11	0	.11	0	.11	0	.12	0
196S.CENTRAL PA	1976	.18	.000	.16	5	.10	0	.09	0	.09	0	.10	0
197SOUTH WEST PA	1976	.18	.000	.16	5	.10	0	.10	0	.10	0	.11	0
208NASHVILLE, TN M	1976	.17	.000	.15	3	.09	0	.09	0	.09	0	.10	0
215DALLAS-FT.WORTH	1976	.17	.000	.15	3	.09	0	.08	0	.08	0	.09	0
216HOUSTON	1976	.26	.000	.25	25	.16	4	.17	7	.20	13	.23	21
225RICHMOND, VA	1976	.17	.000	.15	3	.09	0	.08	0	.09	0	.10	0
234SE WISCONSIN	1976	.23	.000	.21	15	.13	1	.12	0	.13	1	.13	1
004BIRMINGHAM	1976	.15	.000	.13	1	.07	0	.07	0	.07	0	.08	0
015PHOENIX-TUCSON	1976	.14	.000	.13	1	.09	0	.09	0	.09	0	.10	0
016C.ARKANSAS	1976	.13	.000	.12	0	.08	0	.08	0	.08	0	.09	0
018MEMPHIS	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0
022SHREVEPORT	1976	.14	.000	.13	1	.08	0	.07	0	.08	0	.08	0
049JACKSONVILLE,FL	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.08	0
052W.CENT. FLORIDA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
056ATLANTA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
073ROCKFORD,ILL.	1976	.14	.000	.12	0	.08	0	.07	0	.07	0	.08	0
122CENT.VICK	1976	.13	.000	.12	0	.07	0	.08	0	.07	0	.07	0
124TOLEDO	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

128SE MINN-LA CROS	1976	.13	.000	.12	0	.07	0	.07	0	.07	0	.08	0
152ALBUQUERQUE	1976	.14	.000	.12	0	.07	0	.06	0	.07	0	.07	0
160GENESSE-FINGER	1976	.13	.000	.12	0	.06	0	.06	0	.09	0	.10	0
161HUDSON VALLEY	1976	.14	.000	.12	0	.07	0	.06	0	.07	0	.07	0
167CHARLOTTE,NC	1976	.14	.000	.13	1	.08	0	.08	0	.08	0	.09	0
186TULSA	1976	.14	.000	.12	0	.07	0	.07	0	.07	0	.07	0
193PORTLAND, OR	1976	.13	.000	.12	0	.08	0	.07	0	.08	0	.08	0
195CENTRAL PA	1976	.13	.000	.12	0	.07	0	.06	0	.07	0	.07	0
200COLUMBIA, SC	1976	.14	.000	.13	1	.09	0	.08	0	.08	0	.09	0
217SAN ANTONIO, TX	1976	.15	.000	.13	1	.08	0	.07	0	.08	0	.08	0
223HAMTON RDS, VA	1976	.15	.000	.13	1	.08	0	.07	0	.08	0	.09	0
229PUGET SOUND, WA	1976	.13	.000	.11	0	.07	0	.06	0	.06	0	.07	0
230S.CENT. WASH.	1976	.15	.000	.13	1	.08	0	.08	0	.08	0	.09	0

AVERAGE PERCENT CHANGE	-11.	-45.	-48.	-46.	-41.
NO. OF CITIES ABOVE STD	43	6	3	6	9
TOTAL NO. OF VIOLATIONS	253	10	9	20	37

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

F X M A

HC TO NOX RATIO IS 9.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: 1 NO STD GROWTH RATE SCENARIO: 1 LO

P R O J E C T E D

REGION	BASE YEAR	BASE CONC	BASE BKGD	1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.12	0	.12	0	.12	0	.12	0
041E.CONNECTICUT	1976	.23	.00	.21	16	.17	6	.15	3	.14	2	.14	2
042HARTFORD-NEW HA	1976	.27	.00	.25	26	.20	12	.18	8	.18	8	.18	8
043NYC-NJ-CONN	1976	.24	.00	.22	19	.18	8	.16	5	.16	5	.17	6
045PHILADELPHIA	1976	.26	.00	.24	23	.18	8	.17	6	.17	7	.18	8
047NAT.CAPITAL	1976	.14	.00	.18	7	.13	1	.12	0	.11	0	.12	0
067CHICAGO	1976	.20	.00	.19	10	.15	3	.14	2	.14	2	.14	2
070ST. LOUIS	1976	.21	.00	.21	16	.16	5	.14	2	.14	2	.15	3
078LOUISVILLE,KY	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.13	1
079CINCINNATI	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
080INDIANAPOLIS	1976	.17	.00	.16	4	.13	1	.12	0	.12	0	.12	0
099S.CENT. KANSAS	1976	.17	.00	.16	5	.13	1	.13	1	.12	0	.13	1
106S. LA - SE TEXA	1976	.19	.00	.18	9	.15	3	.15	4	.16	4	.16	5
115BALTIMORE	1976	.23	.00	.21	16	.17	6	.16	4	.15	4	.16	4
118CET. MASS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
119BOSTON	1976	.16	.00	.15	3	.12	0	.11	0	.10	0	.11	0
120PROVIDENCE,RI	1976	.19	.00	.18	8	.14	2	.13	1	.12	0	.12	0
121MERRIMACK VAL	1976	.17	.00	.16	4	.13	1	.12	0	.12	0	.12	0
123DETROIT	1976	.18	.00	.17	5	.13	1	.12	0	.12	0	.12	0
151NE PA - DEL VAL	1976	.23	.00	.21	16	.17	7	.16	5	.16	5	.16	5
153EL PASO	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
162BUFFALO	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.12	0
173DAYTON	1976	.18	.00	.17	5	.14	2	.13	1	.13	1	.13	1
174CLEVELAND	1976	.19	.00	.18	8	.15	4	.15	3	.15	4	.16	4
176COLUMBUS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.14	2
196S.CENTRAL PA	1976	.18	.00	.17	6	.13	1	.12	0	.12	0	.13	1
197SOUTH WEST PA	1976	.18	.00	.17	6	.14	2	.13	1	.13	1	.14	2
208NASHVILLE, TN H	1976	.17	.00	.16	4	.13	1	.12	0	.12	0	.12	0
215DALLAS-FT.WORTH	1976	.17	.00	.16	4	.12	0	.11	0	.11	0	.11	0
216HOUSTON	1976	.26	.00	.25	25	.20	13	.21	14	.22	17	.22	19
225RICHMOND, VA	1976	.17	.00	.16	4	.12	0	.12	0	.12	0	.12	0
234SE WISCONSIN	1976	.23	.00	.22	17	.18	8	.17	6	.17	6	.17	6
004BIRMINGHAM	1976	.15	.00	.14	2	.10	0	.10	0	.10	0	.10	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
016C.ARKANSAS	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
022SHREVEPORT	1976	.14	.00	.13	1	.10	0	.10	0	.10	0	.10	0
049JACKSONVILLE,FL	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
052*.CENT. FLORIDA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
056ATLANTA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
073ROCKFORD,ILL.	1976	.14	.00	.13	1	.10	0	.10	0	.09	0	.10	0
122CENT.MICH	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

124TOLEDO	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.10	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
167CHARLOTTE.NC	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
186TULSA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
193PORTLAND. OR	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
200COLUMBIA. SC	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
217SAN ANTONIO. TX	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0
223HAMTON RDS. VA	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0
229PUGET SOUND. WA	1976	.13	.00	.12	0	.09	0	.08	0	.08	0	.09	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0

AVERAGE PERCENT CHANGE	-7.	-29.	-36.	-31.	-29.
NO. OF CITIES ABOVE STD	49	25	18	16	18
TOTAL NO. OF VIOLATIONS	320	101	69	71	80

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

F A M A

HC TO NOX RATIO IS 4.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: 1 NO STD GROWTH RATE SCENARIO: 2 HI

P R O J E C T E D

	BASE			1980		1985		1990		1995		1999	
REGION	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.13	1	.13	1	.13	1	.14	2
041E.CONNECTICUT	1976	.23	.00	.21	16	.17	7	.16	5	.17	6	.18	8
042HARTFORD-NEW HA	1976	.27	.00	.25	26	.21	14	.20	12	.20	13	.21	15
043NYC-NJ-CONN	1976	.24	.00	.23	19	.18	9	.18	8	.19	9	.19	11
045PHILADELPHIA	1976	.26	.00	.24	24	.19	11	.19	10	.20	12	.21	14
047NAT.CAPITAL	1976	.19	.00	.18	8	.14	2	.13	1	.13	1	.14	2
067CHICAGO	1976	.20	.00	.19	10	.15	4	.15	3	.15	4	.16	5
070ST. LOUIS	1976	.23	.00	.22	16	.17	7	.16	5	.17	6	.18	8
078LOUISVILLE,KY	1976	.17	.00	.16	5	.14	2	.14	2	.14	2	.15	3
079CINCINNATI	1976	.17	.00	.16	5	.14	1	.13	1	.14	2	.14	2
080INDIANAPOLIS	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
099S.CENT. KANSAS	1976	.17	.00	.16	5	.14	2	.13	1	.14	2	.14	2
106S. LA - SE TEXA	1976	.19	.00	.18	9	.16	4	.16	5	.17	7	.18	8
115BALTIMORE	1976	.23	.00	.22	16	.18	8	.17	7	.18	8	.18	9
118CET. MASS	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.13	1
119BOSTON	1976	.16	.00	.15	3	.12	0	.12	0	.12	0	.12	0
120PROVIDENCE,RI	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.15	3
121MERRIMACK VAL	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
123DETROIT	1976	.18	.00	.17	6	.14	2	.14	1	.14	2	.14	2
151NE PA - DEL VAL	1976	.23	.00	.22	17	.18	8	.18	8	.18	9	.19	10
153EL PASO	1976	.16	.00	.15	3	.13	1	.12	0	.13	1	.13	1
162BUFFALO	1976	.16	.00	.15	3	.13	1	.12	0	.13	1	.13	1
173DAYTON	1976	.18	.00	.17	6	.14	2	.14	2	.14	2	.15	3
174CLEVELAND	1976	.19	.00	.18	9	.16	4	.16	5	.17	6	.17	6
176COLUMBUS	1976	.16	.00	.15	3	.13	1	.12	0	.13	1	.13	1
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	4	.15	4	.16	4	.16	5
196S.CENTRAL PA	1976	.18	.00	.17	6	.14	2	.14	2	.14	2	.15	3
197SOUTH WEST PA	1976	.18	.00	.17	6	.14	2	.14	2	.15	3	.15	4
201NASHVILLE, TN M	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
215DALLAS-FT.WORTH	1976	.17	.00	.16	5	.13	1	.12	0	.13	1	.13	1
216HOUSTON	1976	.26	.00	.25	26	.22	16	.22	19	.24	21	.25	25
225RICHMOND, VA	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
239SE WISCONSIN	1976	.23	.00	.22	17	.18	9	.18	8	.18	9	.19	10
004BIRMINGHAM	1976	.15	.00	.14	2	.11	0	.11	0	.11	0	.12	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.12	0	.12	0	.12	0	.12	0
016C.ARKANSAS	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.11	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.11	0	.12	0	.12	0
022SHREVEPORT	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
049JACKSONVILLE,FL	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.11	0
052W.CENT. FLORIDA	1976	.14	.00	.13	1	.11	0	.10	0	.11	0	.11	0
056ATLANTA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
073ROCKFORD,ILL.	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
122CENT.MICH	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120474

124TOLEDO	1976	.14	.00	.13	1	.11	0	.11	0	.12	0	.12	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.11	0	.10	0	.11	0	.11	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.12	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
167CHARLOTTE,NC	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
186TULSA	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
193PORTLAND, OR	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
200COLUMBIA, SC	1976	.14	.00	.13	1	.12	0	.11	0	.12	0	.12	0
217SAN ANTONIO, TX	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0
223HAMTON RDS, VA	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0
229PUGET SOUND, WA	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.12	0	.12	0	.12	0	.12	0
AVERAGE PERCENT CHANGE					-4.		-21.		-23.		-21.		-18.
NO. OF CITIES ABOVE STD					49		32		27		31		32
TOTAL NO. OF VIOLATIONS					336		133		115		141		173

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120474

[illegible]

NO TO NO2 RATIO IS 0.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: [illegible] GROWTH RATE SCENARIO: I-O

PROJECTIONS

REGION	PAST YEAR	PAST CONC	PAST NUMB	1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.12	0	.12	0	.12	0	.12	0
041E.CONNECTICUT	1976	.23	.00	.21	15	.16	5	.14	2	.14	2	.14	2
042HARTFORD-NEW HA	1976	.21	.00	.20	26	.20	12	.18	8	.17	7	.18	8
043NYC-NJ-CONN	1976	.24	.00	.22	19	.18	5	.16	5	.16	5	.16	6
045PHILADELPHIA	1976	.26	.00	.24	23	.18	8	.17	6	.17	6	.17	7
047NAT.CAPITAL	1976	.19	.00	.18	7	.13	1	.11	0	.11	0	.11	0
067CHICAGO	1976	.20	.00	.19	10	.15	3	.13	1	.13	1	.13	1
070ST. LOUIS	1976	.23	.00	.21	15	.16	5	.14	2	.14	2	.14	2
078LOUISVILLE,KY	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.13	1
079CINCINNATI	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
080INDIANAPOLIS	1976	.17	.00	.16	4	.13	1	.12	0	.11	0	.12	0
099S.CENT. KANSAS	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
106S. LA - SE TEXA	1976	.19	.00	.18	9	.15	3	.15	3	.16	4	.16	5
115BALTIMORE	1976	.23	.00	.21	15	.17	6	.15	4	.15	4	.16	4
118CET. MASS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
119BOSTON	1976	.16	.00	.15	3	.12	0	.10	0	.10	0	.10	0
120PROVIDENCE,RI	1976	.19	.00	.18	8	.14	2	.12	0	.12	0	.12	0
121MERRIMACK VAL	1976	.17	.00	.16	4	.13	1	.12	0	.12	0	.12	0
123DETROIT	1976	.18	.00	.17	5	.13	1	.12	0	.12	0	.12	0
151NE PA - DEL VAL	1976	.23	.00	.21	15	.17	7	.16	5	.16	4	.16	5
153EL PASO	1976	.16	.00	.15	3	.12	0	.10	0	.10	0	.11	0
162BUFFALO	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
173DAYTON	1976	.18	.00	.17	5	.14	2	.13	1	.13	1	.13	1
174CLEVELAND	1976	.19	.00	.18	8	.15	4	.15	3	.15	4	.16	4
176COLUMBUS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.14	2
196S.CENTRAL PA	1976	.18	.00	.17	5	.13	1	.12	0	.12	0	.12	0
197SOUTH WEST PA	1976	.18	.00	.17	5	.14	2	.13	1	.13	1	.13	1
208NASHVILLE, TN A	1976	.17	.00	.16	4	.13	1	.12	0	.12	0	.12	0
215DALLAS-FT.WORTH	1976	.17	.00	.16	4	.12	0	.11	0	.11	0	.11	0
216HOUSTON	1976	.26	.00	.25	25	.20	13	.21	14	.22	17	.22	18
225RICHMOND, VA	1976	.17	.00	.15	4	.12	0	.11	0	.12	0	.12	0
239SE WISCONSIN	1976	.23	.00	.22	17	.18	8	.17	5	.17	6	.17	6
004BIRMINGHAM	1976	.15	.00	.14	2	.10	0	.09	0	.10	0	.10	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
016C.ARKANSAS	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
022SHREVEPORT	1976	.14	.00	.13	1	.10	0	.10	0	.10	0	.11	0
049JACKSONVILLE,FL	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.10	0
052W.CENT. FLORIDA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.10	0
056ATLANTA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.10	0
073ROCKFORD,ILL.	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.10	0
122CENT.MICH	1976	.13	.00	.12	1	.10	0	.09	0	.09	0	.10	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 12047-

124TOLEDO	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.10	0	.09	0	.08	0	.09	0
167CHARLOTTE.NC	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
186TULSA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
193PORTLAND. OR	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.10	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
200COLUMBIA. SC	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
217SAN ANTONIO. TX	1976	.15	.00	.14	2	.11	0	.09	0	.09	0	.10	0
223HAMTON RDS. VA	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0
229PUGET SOUND. WA	1976	.13	.00	.12	0	.09	0	.08	0	.08	0	.08	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0
AVERAGE PERCENT CHANGE					-7.		-25.		-31.		-31.		-30.
NO. OF CITIES ABOVE STD					44		25		16		16		16
TOTAL NO. OF VIOLATIONS					320		101		64		67		73

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

F K M A

HC TO NOX RATIO IS 9.5 : 1
O/ONE BACKGROUND IS .09 PPM
O/ONE STANDARD IS .12 PPM

STRATEGY: 2 85% RED GROWTH RATE SCENARIO: 2 HI

P R O J E C T E D

	B A S E		1980		1985		1990		1995		1999	
R E G I O N	YEAR	CONC BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15 .00	.14	2	.13	1	.13	1	.13	1	.14	2
041E.CONNECTICUT	1976	.23 .00	.21	16	.17	7	.16	5	.17	6	.17	7
042HARTFORD-NEW HA	1976	.27 .00	.25	26	.21	14	.20	12	.20	13	.21	15
043NYC-NJ-CONN	1976	.24 .00	.23	19	.18	9	.18	8	.18	9	.19	11
045PHILADELPHIA	1976	.26 .00	.24	24	.19	11	.19	9	.19	11	.20	14
047NAT.CAPITAL	1976	.19 .00	.18	8	.14	2	.13	1	.13	1	.14	2
067CHICAGO	1976	.20 .00	.19	10	.15	4	.15	3	.15	3	.16	4
070ST. LOUIS	1976	.23 .00	.22	16	.17	7	.16	5	.16	5	.17	7
078LOUISVILLE.KY	1976	.17 .00	.16	5	.14	2	.14	2	.14	2	.15	3
079CINCINNATI	1976	.17 .00	.16	5	.14	1	.13	1	.14	2	.14	2
080INDIANAPOLIS	1976	.17 .00	.16	5	.13	1	.13	1	.13	1	.13	1
099S.CENT. KANSAS	1976	.17 .00	.16	5	.14	2	.13	1	.14	2	.14	2
106S. LA - SE TEXA	1976	.19 .00	.18	9	.16	4	.16	5	.17	7	.18	8
115BALTIMORE	1976	.23 .00	.22	16	.18	8	.17	6	.18	7	.18	9
118CET. MASS	1976	.16 .00	.15	3	.13	1	.12	0	.12	0	.12	0
119BOSTON	1976	.16 .00	.15	3	.12	0	.11	0	.12	0	.12	0
120PROVIDENCE.RI	1976	.19 .00	.18	8	.15	3	.14	2	.14	2	.15	3
121MERRIMACK VAL	1976	.17 .00	.16	5	.13	1	.13	1	.13	1	.14	2
123DETROIT	1976	.18 .00	.17	6	.14	2	.13	1	.14	2	.14	2
151NE PA - DEL VAL	1976	.23 .00	.22	17	.18	8	.17	7	.18	8	.19	10
153EL PASO	1976	.16 .00	.15	3	.13	1	.12	0	.13	1	.13	1
162BUFFALO	1976	.16 .00	.15	3	.13	1	.12	0	.13	1	.13	1
173DAYTON	1976	.18 .00	.17	6	.14	2	.14	2	.14	2	.15	3
174CLEVELAND	1976	.19 .00	.18	9	.16	4	.16	5	.16	6	.17	6
176COLUMBUS	1976	.16 .00	.15	3	.13	1	.12	0	.12	0	.13	1
178NW PA-YOUNGSTWN	1976	.19 .00	.18	8	.15	4	.15	4	.16	4	.16	5
196S.CENTRAL PA	1976	.18 .00	.17	6	.14	2	.14	2	.14	2	.15	3
197SOUTH WEST PA	1976	.18 .00	.17	6	.14	2	.14	2	.15	3	.15	4
208NASHVILLE. TN M	1976	.17 .00	.16	5	.13	1	.13	1	.13	1	.14	2
215DALLAS-FT.WORTH	1976	.17 .00	.16	5	.13	1	.12	0	.13	1	.13	1
216HOUSTON	1976	.26 .00	.25	26	.22	16	.22	16	.24	21	.25	25
225RICHMOND. VA	1976	.17 .00	.16	5	.13	1	.13	1	.13	1	.14	2
239SE WISCONSIN	1976	.23 .00	.22	17	.18	9	.18	8	.18	9	.19	10
004BIRMINGHAM	1976	.15 .00	.14	2	.11	0	.11	0	.11	0	.12	0
015PHOENIX-TUCSON	1976	.14 .00	.13	1	.12	0	.12	0	.12	0	.12	0
016C.ARKANSAS	1976	.13 .00	.12	0	.11	0	.11	0	.11	0	.11	0
018MEMPHIS	1976	.14 .00	.13	1	.11	0	.11	0	.12	0	.12	0
022SHREVEPORT	1976	.14 .00	.13	1	.11	0	.11	0	.11	0	.12	0
049JACKSONVILLE.FL	1976	.13 .00	.12	0	.11	0	.10	0	.11	0	.11	0
052W.CENT. FLORIDA	1976	.14 .00	.13	1	.11	0	.10	0	.10	0	.11	0
056ATLANTA	1976	.14 .00	.13	1	.11	0	.10	0	.10	0	.11	0
073ROCKFORD.ILL.	1976	.14 .00	.13	1	.11	0	.10	0	.11	0	.11	0
122CENT.MICH	1976	.13 .00	.12	0	.10	0	.10	0	.10	0	.10	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

124TOLEDO	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.11	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.11	0	.10	0	.11	0	.11	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.12	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
167CHARLOTTE.NC	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
186TULSA	1976	.14	.00	.13	1	.11	0	.10	0	.11	0	.11	0
193PORTLAND. OR	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
200COLUMBIA. SC	1976	.14	.00	.13	1	.12	0	.11	0	.12	0	.12	0
217SAN ANTONIO. TX	1976	.15	.00	.14	2	.12	0	.11	0	.11	0	.12	0
223HAMTON RDS. VA	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0
229PUGET SOUND. WA	1976	.13	.00	.12	0	.10	0	.09	0	.10	0	.10	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0

AVERAGE PERCENT CHANGE	-5.	-21.	-24.	-21.	-18.
NO. OF CITIES ABOVE STD	49	32	27	30	31
TOTAL NO. OF VIOLATIONS	330	133	114	135	168

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

E K M A

HC TO NOX RATIO IS 9.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: 3 90% RED GROWTH RATE SCENARIO: 1 LO

P R O J E C T E D

	B A S E			1980		1985		1990		1995		1999	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.12	0	.12	0	.12	0	.12	0
041E.CONNECTICUT	1976	.23	.00	.21	16	.16	6	.14	2	.14	2	.14	2
042HARTFORD-NEW HA	1976	.27	.00	.25	26	.20	12	.18	8	.17	7	.18	7
043NYC-NJ-CONN	1976	.24	.00	.22	19	.18	8	.16	5	.16	5	.16	5
045PHILADELPHIA	1976	.26	.00	.24	23	.18	8	.16	5	.16	6	.17	6
047NAT.CAPITAL	1976	.19	.00	.18	7	.13	1	.11	0	.11	0	.11	0
067CHICAGO	1976	.20	.00	.19	10	.15	3	.13	1	.13	1	.13	1
070ST. LOUIS	1976	.23	.00	.21	16	.16	5	.14	2	.13	1	.14	2
078LOUISVILLE.KY	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.13	1
079CINCINNATI	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
080INDIANAPOLIS	1976	.17	.00	.16	4	.13	1	.11	0	.11	0	.11	0
099S.CENT. KANSAS	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
106S. LA - SE TEXA	1976	.19	.00	.18	9	.15	3	.15	3	.16	4	.16	5
115BALTIMORE	1976	.23	.00	.21	16	.17	6	.15	4	.15	3	.15	4
118CET. MASS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
119BOSTON	1976	.16	.00	.15	3	.12	0	.10	0	.10	0	.10	0
120PROVIDENCE.RI	1976	.19	.00	.18	8	.14	2	.12	0	.12	0	.12	0
121MERRIMACK VAL	1976	.17	.00	.16	4	.13	1	.12	0	.11	0	.12	0
123DETROIT	1976	.18	.00	.17	6	.13	1	.12	0	.12	0	.12	0
151NE PA - DEL VAL	1976	.23	.00	.21	16	.17	7	.16	4	.16	4	.16	5
153EL PASO	1976	.16	.00	.15	3	.12	0	.10	0	.10	0	.10	0
162BUFFALO	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
173DAYTON	1976	.18	.00	.17	6	.14	2	.13	1	.13	1	.13	1
174CLEVELAND	1976	.19	.00	.18	8	.15	4	.15	3	.15	3	.15	4
176COLUMBUS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.14	2
196S.CENTRAL PA	1976	.18	.00	.17	6	.13	1	.12	0	.12	0	.12	0
197SOUTH WEST PA	1976	.18	.00	.17	6	.14	2	.13	1	.13	1	.13	1
208NASHVILLE. TN H	1976	.17	.00	.16	4	.13	1	.12	0	.11	0	.12	0
215DALLAS-FT.WORTH	1976	.17	.00	.16	4	.12	0	.11	0	.11	0	.11	0
216HOUSTON	1976	.26	.00	.25	25	.20	13	.21	14	.22	16	.22	18
225RICHMOND, VA	1976	.17	.00	.16	4	.12	0	.11	0	.11	0	.12	0
239SE WISCONSIN	1976	.23	.00	.22	17	.18	8	.17	6	.17	6	.17	6
004BIRMINGHAM	1976	.15	.00	.14	2	.10	0	.09	0	.09	0	.10	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.11	0
016C.ARKANSAS	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
022SHREVEPORT	1976	.14	.00	.13	1	.10	0	.10	0	.10	0	.10	0
049JACKSONVILLE.FL	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
052W.CENT. FLORIDA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
056ATLANTA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
073ROCKFORD.ILL.	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
122CENT.MICH	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

124TOLEDO	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.10	0	.09	0	.08	0	.09	0
167CHARLOTTE,NC	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
186TULSA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
193PORTLAND, OR	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.10	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.09	0	.08	0	.08	0
200COLUMBIA, SC	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
217SAN ANTONIO, TX	1976	.15	.00	.14	2	.11	0	.09	0	.09	0	.09	0
223HAMTON RDS, VA	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0
229PUGET SOUND, WA	1976	.13	.00	.12	0	.09	0	.08	0	.08	0	.08	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0

AVERAGE PERCENT CHANGE	-7.	-25.	-32.	-32.	-31.
NO. OF CITIES ABOVE STD	49	25	16	16	16
TOTAL NO. OF VIOLATIONS	320	101	62	63	70

DATE 12047

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

E K M A

HC TO NOX RATIO IS 9.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: 3 90% RED GROWTH RATE SCENARIO: 2 HI

P R O J E C T E D

	BASE			1980		1985		1990		1995		1999	
REGION	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.13	1	.13	1	.13	1	.14	2
041E.CONNECTICUT	1976	.23	.00	.21	16	.17	7	.16	5	.17	6	.17	7
042HARTFORD-NEW HA	1976	.27	.00	.25	26	.21	14	.20	12	.20	13	.21	15
043NYC-NJ-CONN	1976	.24	.00	.23	19	.18	9	.18	8	.18	9	.19	10
045PHILADELPHIA	1976	.26	.00	.24	24	.19	10	.18	9	.19	11	.20	13
047NAT.CAPITAL	1976	.19	.00	.18	8	.14	2	.13	1	.13	1	.14	2
067CHICAGO	1976	.20	.00	.19	10	.15	4	.15	3	.15	3	.16	4
070ST. LOUIS	1976	.23	.00	.22	16	.17	6	.16	4	.16	5	.17	7
078LOUISVILLE,KY	1976	.17	.00	.16	5	.14	2	.14	2	.14	2	.15	3
079CINCINNATI	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
080INDIANAPOLIS	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.13	1
099S.CENT. KANSAS	1976	.17	.00	.16	5	.14	2	.13	1	.14	2	.14	2
106S. LA - SE TEXA	1976	.19	.00	.18	9	.16	4	.16	5	.17	7	.18	8
115BALTIMORE	1976	.23	.00	.22	16	.18	8	.17	6	.17	7	.18	9
118CET. MASS	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.12	0
119BOSTON	1976	.16	.00	.15	3	.12	0	.11	0	.12	0	.12	0
120PROVIDENCE,RI	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.15	3
121MERRIMACK VAL	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
123DETROIT	1976	.18	.00	.17	6	.14	2	.13	1	.14	2	.14	2
151NE PA - DEL VAL	1976	.23	.00	.22	17	.18	8	.17	7	.18	8	.19	10
153EL PASO	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.13	1
162BUFFALO	1976	.16	.00	.15	3	.13	1	.12	0	.13	1	.13	1
173DAYTON	1976	.18	.00	.17	6	.14	2	.14	2	.14	2	.15	3
174CLEVELAND	1976	.19	.00	.18	9	.16	4	.16	5	.16	5	.17	6
175COLUMBUS	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.13	1
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	4	.15	3	.16	4	.16	5
196S.CENTRAL PA	1976	.18	.00	.17	6	.14	2	.14	1	.14	2	.14	2
197SOUTH WEST PA	1976	.18	.00	.17	6	.14	2	.14	2	.15	3	.15	4
208NASHVILLE, TN H	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
215DALLAS-FT.WORTH	1976	.17	.00	.16	5	.13	1	.12	0	.13	1	.13	1
216HOUSTON	1976	.26	.00	.25	26	.21	16	.22	18	.23	21	.25	24
225RICHMOND, VA	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
239SE WISCONSIN	1976	.23	.00	.22	17	.18	9	.18	8	.18	9	.19	9
004BIRMINGHAM	1976	.15	.00	.14	2	.11	0	.11	0	.11	0	.12	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.12	0	.12	0	.12	0	.12	0
016C.ARKANSAS	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.11	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.11	0	.12	0	.12	0
022SHREVEPORT	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
049JACKSONVILLE,FL	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
052W.CENT. FLORIDA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
056ATLANTA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
073ROCKFORD,ILL.	1976	.14	.00	.13	1	.11	0	.10	0	.11	0	.11	0
122CENT.MICH	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

124TOLEDO	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.11	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.12	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
167CHARLOTTE,NC	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
186TULSA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
193PORTLAND, OR	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
200COLUMBIA, SC	1976	.14	.00	.13	1	.12	0	.11	0	.12	0	.12	0
217SAN ANTONIO, TX	1976	.15	.00	.14	2	.12	0	.11	0	.11	0	.12	0
223HAMTON RDS, VA	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0
229PUGET SOUND, WA	1976	.13	.00	.12	0	.10	0	.09	0	.10	0	.10	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0

AVERAGE PERCENT CHANGE	-5.	-21.	-24.	-22.	-14.
NO. OF CITIES ABOVE STD	49	32	27	29	31
TOTAL NO. OF VIOLATIONS	330	131	111	132	163

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

AMA

HC TO NOX RATIO IS 9.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: 4 95% REQ GROWTH RATE SCENARIO: 1 LO

PROJECTED

REGION	BASE YEAR	BASE CONC	BASE NUMB	1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.12	0	.12	0	.12	0	.12	0
041E.CONNECTICUT	1976	.23	.00	.21	16	.16	5	.14	2	.14	2	.14	2
042HARTFORD-NEW HA	1976	.27	.00	.25	26	.20	12	.18	7	.17	7	.17	7
043NYC-NJ-CONN	1976	.24	.00	.22	19	.18	7	.16	5	.16	5	.16	5
045PHILADELPHIA	1976	.26	.00	.24	23	.18	8	.16	5	.16	5	.17	6
047NAT.CAPITAL	1976	.19	.00	.18	7	.13	1	.11	0	.10	0	.11	0
067CHICAGO	1976	.20	.00	.19	10	.15	3	.13	1	.13	1	.13	1
070ST. LOUIS	1976	.23	.00	.21	16	.16	5	.14	1	.13	1	.13	1
078LOUISVILLE,KY	1976	.17	.00	.16	5	.13	1	.12	0	.13	1	.13	1
079CINCINNATI	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
080INDIANAPOLIS	1976	.17	.00	.16	4	.13	1	.11	0	.11	0	.11	0
099S.CENT. KANSAS	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.12	0
106S. LA - SE TEXA	1976	.19	.00	.18	9	.15	3	.15	3	.16	4	.16	5
115BALTIMORE	1976	.23	.00	.21	16	.17	6	.15	3	.15	3	.15	3
118CET. MASS	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
119BOSTON	1976	.16	.00	.15	3	.12	0	.10	0	.10	0	.10	0
120PROVIDENCE,RI	1976	.19	.00	.18	8	.14	2	.12	0	.12	0	.12	0
121MERRIMACK VAL	1976	.17	.00	.16	4	.13	1	.12	0	.11	0	.12	0
123DETROIT	1976	.18	.00	.17	6	.13	1	.12	0	.12	0	.12	0
151NE PA - DEL VAL	1976	.23	.00	.21	16	.17	7	.16	4	.15	4	.16	4
153EL PASO	1976	.16	.00	.15	3	.12	0	.10	0	.10	0	.10	0
162BUFFALO	1976	.16	.00	.15	3	.12	0	.11	0	.11	0	.11	0
173DAYTON	1976	.18	.00	.17	6	.14	2	.13	1	.12	0	.13	1
174CLEVELAND	1976	.19	.00	.18	8	.15	3	.15	3	.15	3	.15	4
176COLUMBUS	1976	.16	.00	.15	3	.12	0	.11	0	.10	0	.11	0
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.14	2
196S.CENTRAL PA	1976	.18	.00	.17	6	.13	1	.12	0	.12	0	.12	0
197SOUTH WEST PA	1976	.18	.00	.17	6	.14	2	.13	1	.13	1	.13	1
208NASHVILLE, TN M	1976	.17	.00	.16	4	.13	1	.11	0	.11	0	.11	0
215DALLAS-FT.WORTH	1976	.17	.00	.16	4	.12	0	.11	0	.11	0	.11	0
216HOUSTON	1976	.26	.00	.25	25	.20	13	.21	14	.22	16	.22	18
225RICHMOND, VA	1976	.17	.00	.16	4	.12	0	.11	0	.11	0	.12	0
234SE WISCONSIN	1976	.23	.00	.22	17	.18	8	.17	6	.16	5	.16	5
004BIRMINGHAM	1976	.15	.00	.14	2	.10	0	.09	0	.09	0	.10	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.11	0	.11	0	.10	0	.11	0
016C.ARKANSAS	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
022SHREVEPORT	1976	.14	.00	.13	1	.10	0	.10	0	.10	0	.10	0
049JACKSONVILLE,FL	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
052W.CENT. FLORIDA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
056ATLANTA	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
073ROCKFORD,ILL.	1976	.14	.00	.13	1	.10	0	.09	0	.09	0	.09	0
122CENT.MICH	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

124TOLEDO	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.10	0	.08	0	.08	0	.08	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.10	0	.09	0	.08	0	.09	0
167CHARLOTTE,NC	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
186TULSA	1976	.14	.00	.13	1	.10	0	.09	0	.08	0	.08	0
193PORTLAND, OR	1976	.13	.00	.12	0	.10	0	.09	0	.09	0	.09	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.08	0	.08	0	.08	0
200COLUMBIA, SC	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
217SAN ANTONIO, TX	1976	.15	.00	.14	2	.11	0	.09	0	.09	0	.09	0
223HAMTON RDS, VA	1976	.15	.00	.14	2	.11	0	.09	0	.09	0	.10	0
229PUGET SOUND, WA	1976	.13	.00	.12	0	.09	0	.08	0	.08	0	.08	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.11	0	.10	0	.10	0	.10	0

AVERAGE PERCENT CHANGE	-7.	-25.	-32.	-33.	-32.
NO. OF CITIES ABOVE STD	49	25	15	15	16
TOTAL NO. OF VIOLATIONS	320	98	58	60	66

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

E K M A

HC TO NOX RATIO IS 4.5 : 1
OZONE BACKGROUND IS .00 PPM
OZONE STANDARD IS .12 PPM

STRATEGY: 4 95% RED GROWTH RATE SCENARIO: 2 MI

P R O J E C T E D

REGION	BASE YEAR	BASE CONC	BASE BKGD	1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
005MOBILE-PENSACOL	1976	.15	.00	.14	2	.13	1	.13	1	.13	1	.14	1
041E.CONNECTICUT	1976	.23	.00	.21	16	.17	7	.16	5	.16	6	.17	7
042HARTFORD-NEW HA	1976	.27	.00	.25	26	.21	14	.19	11	.20	12	.21	14
043NYC-NJ-CONN	1976	.24	.00	.23	19	.18	9	.18	8	.18	9	.19	10
045PHILADELPHIA	1976	.26	.00	.24	24	.19	10	.18	9	.19	11	.20	13
047NAT.CAPITAL	1976	.19	.00	.18	8	.14	2	.13	1	.13	1	.14	2
067CHICAGO	1976	.20	.00	.19	10	.15	4	.15	3	.15	3	.15	4
070ST. LOUIS	1976	.23	.00	.22	16	.17	6	.16	4	.16	5	.17	6
078LOUISVILLE,KY	1976	.17	.00	.16	5	.14	2	.14	2	.14	2	.15	3
079CINCINNATI	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
080INDIANAPOLIS	1976	.17	.00	.16	5	.13	1	.12	0	.13	1	.13	1
099S.CENT. KANSAS	1976	.17	.00	.16	5	.14	2	.13	1	.14	2	.14	2
106S. LA - SE TEXA	1976	.19	.00	.18	9	.16	4	.16	5	.17	7	.18	8
115BALTIMORE	1976	.23	.00	.22	16	.18	8	.17	6	.17	7	.18	8
118CET. MASS	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.12	0
119BOSTON	1976	.16	.00	.15	3	.12	0	.11	0	.12	0	.12	0
120PROVIDENCE,RI	1976	.19	.00	.18	8	.15	3	.14	2	.14	2	.15	3
121MERRIMACK VAL	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
123DETROIT	1976	.18	.00	.17	6	.14	2	.13	1	.14	2	.14	2
151NE PA - DEL VAL	1976	.23	.00	.22	17	.18	8	.17	7	.18	8	.18	9
153EL PASO	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.13	1
162BUFFALO	1976	.16	.00	.15	3	.13	1	.12	0	.13	1	.13	1
173DAYTON	1976	.18	.00	.17	6	.14	2	.14	2	.14	2	.15	3
174CLEVELAND	1976	.19	.00	.18	9	.16	4	.16	5	.16	5	.17	6
176COLUMBUS	1976	.16	.00	.15	3	.13	1	.12	0	.12	0	.13	1
178NW PA-YOUNGSTWN	1976	.19	.00	.18	8	.15	4	.15	3	.15	4	.16	5
196S.CENTRAL PA	1976	.18	.00	.17	6	.14	2	.13	1	.14	2	.14	2
197SOUTH WEST PA	1976	.18	.00	.17	6	.14	2	.14	2	.14	3	.15	3
208NASHVILLE, TN M	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
215DALLAS-FT.WORTH	1976	.17	.00	.16	5	.13	1	.12	0	.12	0	.13	1
216HOUSTON	1976	.26	.00	.25	26	.21	16	.22	18	.23	21	.25	24
225RICHMOND, VA	1976	.17	.00	.16	5	.13	1	.13	1	.13	1	.14	2
239SE WISCONSIN	1976	.23	.00	.22	17	.18	9	.18	8	.18	8	.18	9
004BIRMINGHAM	1976	.15	.00	.14	2	.11	0	.11	0	.11	0	.12	0
015PHOENIX-TUCSON	1976	.14	.00	.13	1	.12	0	.12	0	.12	0	.12	0
016C.ARKANSAS	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.11	0
018MEMPHIS	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
022SHREVEPORT	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
049JACKSONVILLE,FL	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
052W.CENT. FLORIDA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
056ATLANTA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.10	0
073ROCKFORD,ILL.	1976	.14	.00	.13	1	.11	0	.10	0	.11	0	.11	0
122CENT.MICH	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.10	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

124TOLEDO	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
128SE MINN-LA CROS	1976	.13	.00	.12	0	.10	0	.10	0	.10	0	.11	0
152ALBUQUERQUE	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
160GENESSE-FINGER	1976	.13	.00	.12	0	.11	0	.11	0	.11	0	.12	0
161HUDSON VALLEY	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
167CHARLOTTE,NC	1976	.14	.00	.13	1	.11	0	.11	0	.11	0	.12	0
186TULSA	1976	.14	.00	.13	1	.11	0	.10	0	.10	0	.11	0
193PORTLAND, OR	1976	.13	.00	.12	0	.11	0	.10	0	.11	0	.11	0
195CENTRAL PA	1976	.13	.00	.12	0	.10	0	.09	0	.10	0	.10	0
200COLUMBIA, SC	1976	.14	.00	.13	1	.12	0	.11	0	.11	0	.12	0
217SAN ANTONIO, TX	1976	.15	.00	.14	2	.12	0	.11	0	.11	0	.12	0
223HAMTON RDS, VA	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0
229PUGET SOUND, WA	1976	.13	.00	.12	0	.10	0	.09	0	.10	0	.10	0
230S.CENT. WASH.	1976	.15	.00	.14	2	.12	0	.11	0	.12	0	.12	0
AVERAGE PERCENT CHANGE					-[illegible]		-21.		-23.		-23.		-19.
NO. OF CITIES ABOVE STD					49		32		28		28		31
TOTAL NO. OF VIOLATIONS					330		131		109		129		157

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS DATE 120479

LINEAR ROLLBACK

STRATEGY: 1 NO STD GROWTH RATE SCENARIO: 1 LO

CO AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9. PPM)

PROJECTED

	BASE			1980		1985		1991		1995		1999	
REGION	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
073BIRMINGHAM,AL	1976	12.	1.	10.	2	6.	0	5.	0	5.	0	5.	0
090FAIRBANKS,AK	1976	25.	1.	21.	63	11.	4	8.	0	8.	0	8.	0
020ANCHORAGE,AK	1976	16.	1.	15.	18	8.	0	5.	0	5.	0	5.	0
013PHOENIX	1976	20.	1.	17.	31	9.	0	7.	0	7.	0	7.	0
019TUCSON	1976	15.	1.	13.	8	7.	0	5.	0	5.	0	5.	0
001BRIDGEPORT,CT	1976	32.	1.	26.	109	13.	9	9.	0	8.	0	8.	0
003HARTFORD	1976	15.	1.	13.	9	7.	0	5.	0	4.	0	4.	0
009NEW HAVEN	1976	13.	1.	10.	2	6.	0	4.	0	4.	0	4.	0
001WASH., D.C.	1976	19.	1.	16.	22	8.	0	6.	0	5.	0	5.	0
121ATLANTA	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	5.	0
001BOISE,ID	1976	18.	1.	15.	19	9.	0	7.	0	6.	0	6.	0
031CHICAGO	1976	21.	1.	18.	35	10.	2	8.	0	7.	0	7.	0
097INDIANAPOLIS	1976	13.	1.	11.	3	6.	0	5.	0	5.	0	5.	0
153DES MOINES	1976	16.	1.	14.	13	8.	0	6.	0	6.	0	6.	0
173WICHITA	1976	15.	1.	13.	8	8.	0	6.	0	6.	0	6.	0
111LOUISVILLE	1976	24.	1.	20.	52	11.	3	8.	0	7.	0	7.	0
510BALTIMORE	1976	16.	1.	13.	10	7.	0	5.	0	5.	0	5.	0
119BOSTON	1976	17.	1.	14.	14	8.	0	6.	0	5.	0	5.	0
163DETROIT	1976	13.	1.	11.	3	6.	0	5.	0	4.	0	4.	0
149SAGNINAW,MI	1976	18.	1.	15.	19	8.	0	6.	0	6.	0	6.	0
053MINN-ST.PAUL	1976	17.	1.	14.	13	8.	0	6.	0	5.	0	5.	0
510ST. LOUIS	1976	17.	1.	14.	16	9.	0	7.	0	6.	0	6.	0
003LAS VEGAS	1976	12.	1.	10.	2	5.	0	4.	0	4.	0	4.	0
061NEW YORK CITY	1976	23.	1.	20.	50	12.	5	9.	0	9.	0	9.	0
119CHARLOTTE,N.C.	1976	14.	1.	12.	7	8.	0	6.	0	6.	0	6.	0
035CLEVELAND	1976	11.	1.	10.	1	5.	0	4.	0	4.	0	4.	0
061CINCINNATI	1976	16.	1.	13.	10	7.	0	5.	0	5.	0	5.	0
113DAYTON	1976	20.	1.	17.	29	9.	0	7.	0	6.	0	6.	0
051PORTLAND,OR	1976	19.	1.	16.	23	9.	0	7.	0	6.	0	6.	0
101PHILADELPHIA	1976	14.	1.	12.	6	7.	0	5.	0	5.	0	5.	0
003PITTSBURG	1976	21.	1.	18.	36	10.	1	7.	0	7.	0	7.	0
007PROVIDENCE,RI	1976	17.	1.	14.	14	8.	0	6.	0	6.	0	6.	0
157MEMPHIS	1976	12.	1.	10.	2	6.	0	4.	0	4.	0	4.	0
037NASHVILLE	1976	17.	1.	14.	15	8.	0	5.	0	5.	0	5.	0
093KNOXVILLE	1976	14.	1.	11.	4	6.	0	4.	0	4.	0	4.	0
201HOUSTON	1976	12.	1.	10.	2	6.	0	4.	0	4.	0	4.	0
760RICHMOND	1976	16.	1.	13.	9	7.	0	5.	0	4.	0	4.	0
710NORFOLK,VA	1976	16.	1.	13.	9	7.	0	5.	0	4.	0	4.	0
063SPOKANE	1976	14.	1.	12.	24	9.	0	6.	0	6.	0	6.	0
033SEATTLE	1976	13.	1.	11.	12	7.	0	5.	0	5.	0	5.	0
079MILWAUKEE	1976	14.	1.	12.	5	7.	0	5.	0	5.	0	5.	0
031JACKSONVILLE,FL	1976	11.	1.	10.	1	6.	0	4.	0	4.	0	4.	0
109ROCHESTER,NY	1976	14.	1.	12.	5	7.	0	5.	0	5.	0	5.	0
137DULUTH	1976	13.	1.	11.	4	6.	0	5.	0	5.	0	5.	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS DATE 120479

005OMAHA	1976	15.	1.	14.	12	..	0	7.	0	5.	0	5.	0
001ALBUQUERQUE	1976	22.	1.	15.	48	..	0	8.	0	5.	0	5.	0
095TOLEDO	1976	12.	1.	10.	2	5.	0	4.	0	4.	0	4.	0
153AKRON	1976	15.	1.	13.	10	7.	0	5.	0	5.	0	5.	0
109OKLAHOMA CITY	1976	11.	1.	10.	1	7.	0	6.	0	5.	0	5.	0
143TULSA	1976	11.	1.	10.	1	7.	0	6.	0	5.	0	5.	0
049COLUMBUS.OH	1976	11.	1.	9.	0	5.	0	4.	0	4.	0	4.	0
141EL PASO	1976	12.	1.	10.	2	5.	0	4.	0	4.	0	4.	0

AVERAGE PERCENT CHANGE	-16.	-53.	-65.	-67.	-67.
NO. OF CITIES ABOVE STD	51	6	0	0	0
TOTAL NO. OF VIOLATIONS	432	24	0	0	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

LINEAR ROLLBACK

STRATEGY: 2 85% RED GROWTH RATE SCENARIO: 1 LO

CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9. PPM)

PROJECTED

	BASE			1980		1985		1990		1995		1999	
REGION	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
073BIRMINGHAM,AL	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
090FAIRBANKS,AK	1976	25.	1.	21.	63	11.	4	8.	0	7.	0	8.	0
020ANCHORAGE,AK	1976	18.	1.	15.	18	8.	0	5.	0	5.	0	5.	0
013PHOENIX	1976	20.	1.	17.	51	9.	0	7.	0	7.	0	7.	0
019TUCSON	1976	15.	1.	13.	8	7.	0	5.	0	5.	0	5.	0
001BRIDGEPORT,CT	1976	32.	1.	26.	109	13.	8	8.	0	7.	0	7.	0
003HARTFORD	1976	15.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
009NEW HAVEN	1976	13.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
001WASH., D.C.	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	5.	0
121ATLANTA	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	5.	0
001BOISE,ID	1976	18.	1.	15.	19	8.	0	6.	0	5.	0	5.	0
031CHICAGO	1976	21.	1.	18.	35	10.	1	6.	0	5.	0	5.	0
097INDIANAPOLIS	1976	13.	1.	11.	3	6.	0	4.	0	4.	0	4.	0
153DES MOINES	1976	16.	1.	14.	13	8.	0	5.	0	4.	0	4.	0
173WICHITA	1976	15.	1.	13.	8	8.	0	5.	0	4.	0	4.	0
111LOUISVILLE	1976	24.	1.	20.	52	11.	2	7.	0	6.	0	6.	0
510BALTIMORE	1976	16.	1.	13.	10	7.	0	4.	0	4.	0	4.	0
119BOSTON	1976	17.	1.	14.	14	7.	0	5.	0	4.	0	4.	0
163DETROIT	1976	13.	1.	11.	3	6.	0	4.	0	3.	0	3.	0
149SAGINAW,MI	1976	18.	1.	15.	19	8.	0	5.	0	4.	0	4.	0
053MINN-ST.PAUL	1976	17.	1.	14.	13	8.	0	5.	0	4.	0	4.	0
510ST. LOUIS	1976	17.	1.	14.	16	8.	0	5.	0	4.	0	4.	0
003LAS VEGAS	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
061NEW YORK CITY	1976	23.	1.	20.	50	11.	4	8.	0	7.	0	7.	0
119CHARLOTTE,N.C.	1976	14.	1.	12.	7	7.	0	4.	0	4.	0	4.	0
035CLEVELAND	1976	11.	1.	10.	1	5.	0	4.	0	3.	0	3.	0
061CINCINNATI	1976	16.	1.	13.	10	7.	0	5.	0	4.	0	4.	0
113DAYTON	1976	20.	1.	17.	29	9.	0	6.	0	5.	0	5.	0
051PORTLAND,OR	1976	19.	1.	16.	23	9.	0	5.	0	5.	0	5.	0
101PHILADELPHIA	1976	14.	1.	12.	6	7.	0	4.	0	4.	0	4.	0
003PITTSBURG	1976	21.	1.	18.	36	10.	1	6.	0	5.	0	5.	0
007PROVIDENCE,RI	1976	17.	1.	14.	14	8.	0	5.	0	4.	0	4.	0
157MEMPHIS	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
037NASHVILLE	1976	17.	1.	14.	15	7.	0	5.	0	4.	0	4.	0
093KNOXVILLE	1976	14.	1.	11.	4	6.	0	4.	0	4.	0	4.	0
201HOUSTON	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
760RICHMOND	1976	16.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
710NORFOLK,VA	1976	16.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
063SPOKANE	1976	19.	1.	15.	26	8.	0	5.	0	5.	0	5.	0
033SEATTLE	1976	15.	1.	14.	12	7.	0	5.	0	4.	0	4.	0
079MILWAUKEE	1976	14.	1.	12.	5	6.	0	4.	0	4.	0	4.	0
031JACKSONVILLE,FL	1976	11.	1.	10.	1	5.	0	4.	0	3.	0	3.	0
109ROCHESTER,NY	1976	14.	1.	12.	5	7.	0	4.	0	4.	0	4.	0
137DULUTH	1976	13.	1.	13.	4	7.	0	5.	0	4.	0	4.	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

0050MAHA	1976	16.	1.	14.	12	5.	0	5.	0	4.	0	4.	0
001ALBUQUERQUE	1976	22.	1.	18.	38	9.	0	6.	0	6.	0	6.	0
095TOLEDO	1976	12.	1.	10.	2	6.	0	4.	0	4.	0	4.	0
153AKRON	1976	16.	1.	13.	13	7.	0	5.	0	4.	0	4.	0
109OKLAHOMA CITY	1976	11.	1.	10.	1	6.	0	4.	0	3.	0	3.	0
143TULSA	1976	11.	1.	10.	1	6.	0	4.	0	3.	0	3.	0
049COLUMBUS.OH	1976	11.	1.	9.	0	5.	0	3.	0	3.	0	3.	0
141EL PASO	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0

AVERAGE PERCENT CHANGE	-16.	-54.	-78.	-78.	-78.
NO. OF CITIES ABOVE STD	1	6	0	0	0
TOTAL NO. OF VIOLATIONS	32	20	0	0	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

L I N E A R R O L L B A C K

STRATEGY: 3 90% RED GROWTH RATE SCENARIO: 1 LO

CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9. PPM)

P R O J E C T E D

	B A S E			1980		1985		1990		1995		1999	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
073BIRMINGHAM,AL	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
090FAIRBANKS,AK	1976	25.	1.	21.	63	11.	4	8.	0	7.	0	8.	0
020ANCHORAGE,AK	1976	18.	1.	15.	18	8.	0	5.	0	5.	0	5.	0
013PHOENIX	1976	20.	1.	17.	31	9.	0	7.	0	7.	0	7.	0
019TUCSON	1976	15.	1.	13.	8	7.	0	5.	0	5.	0	5.	0
001BRIDGEPORT,CT	1976	32.	1.	26.	109	13.	8	8.	0	7.	0	7.	0
003HARTFORD	1976	15.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
009NEW HAVEN	1976	13.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
001WASH., D.C.	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	5.	0
121ATLANTA	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	5.	0
001BOISE,ID	1976	18.	1.	15.	19	8.	0	6.	0	5.	0	5.	0
031CHICAGO	1976	21.	1.	18.	35	10.	1	6.	0	5.	0	5.	0
097INDIANAPOLIS	1976	13.	1.	11.	3	6.	0	4.	0	4.	0	4.	0
153DES MOINES	1976	16.	1.	14.	13	8.	0	5.	0	4.	0	4.	0
173WICHITA	1976	15.	1.	13.	8	8.	0	5.	0	4.	0	4.	0
111LOUISVILLE	1976	24.	1.	20.	52	11.	2	7.	0	6.	0	6.	0
510BALTIMORE	1976	16.	1.	13.	10	7.	0	4.	0	4.	0	4.	0
119BOSTON	1976	17.	1.	14.	14	7.	0	5.	0	4.	0	4.	0
163DETROIT	1976	13.	1.	11.	3	6.	0	4.	0	3.	0	3.	0
149SAGINAW,MI	1976	18.	1.	15.	19	8.	0	5.	0	4.	0	4.	0
053MINN-ST.PAUL	1976	17.	1.	14.	13	8.	0	5.	0	4.	0	4.	0
510ST. LOUIS	1976	17.	1.	14.	16	8.	0	5.	0	4.	0	4.	0
003LAS VEGAS	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
061NEW YORK CITY	1976	23.	1.	20.	50	11.	4	8.	0	7.	0	7.	0
119CHARLOTTE,N.C.	1976	14.	1.	12.	7	7.	0	4.	0	4.	0	4.	0
035CLEVELAND	1976	11.	1.	10.	1	5.	0	4.	0	3.	0	3.	0
061CINCINNATI	1976	16.	1.	13.	10	7.	0	5.	0	4.	0	4.	0
113DAYTON	1976	20.	1.	17.	29	9.	0	6.	0	5.	0	5.	0
051PORTLAND,OR	1976	19.	1.	16.	23	9.	0	5.	0	5.	0	5.	0
101PHILADELPHIA	1976	14.	1.	12.	6	7.	0	4.	0	4.	0	4.	0
003PITTSBURG	1976	21.	1.	18.	36	10.	1	6.	0	5.	0	5.	0
007PROVIDENCE,RI	1976	17.	1.	14.	14	8.	0	5.	0	4.	0	4.	0
157MEMPHIS	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
037NASHVILLE	1976	17.	1.	14.	15	7.	0	5.	0	4.	0	4.	0
093KNOXVILLE	1976	14.	1.	11.	4	6.	0	4.	0	4.	0	4.	0
201HOUSTON	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
760RICHMOND	1976	16.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
710NORFOLK,VA	1976	16.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
063SPOKANE	1976	19.	1.	16.	24	8.	0	5.	0	5.	0	5.	0
033SEATTLE	1976	16.	1.	14.	12	7.	0	5.	0	4.	0	4.	0
079MILWAUKEE	1976	14.	1.	12.	5	6.	0	4.	0	4.	0	4.	0
031JACKSONVILLE,FL	1976	11.	1.	10.	1	5.	0	4.	0	3.	0	3.	0
109ROCHESTER,MN	1976	14.	1.	12.	5	7.	0	4.	0	4.	0	4.	0
137DULUTH	1976	15.	1.	13.	4	7.	0	5.	0	4.	0	4.	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

005OMAHA	1976	16.	1.	14.	12	8.	0	5.	0	4.	0	4.	0
001ALBUQUERQUE	1976	22.	1.	18.	38	9.	0	6.	0	6.	0	6.	0
095TOLEDO	1976	12.	1.	10.	2	6.	0	4.	0	4.	0	4.	0
153AKRON	1976	16.	1.	13.	10	7.	0	5.	0	4.	0	4.	0
109OKLAHOMA CITY	1976	11.	1.	10.	1	6.	0	4.	0	3.	0	3.	0
143TULSA	1976	11.	1.	10.	1	6.	0	4.	0	3.	0	3.	0
049COLUMBUS,OH	1976	11.	1.	9.	0	5.	0	3.	0	3.	0	3.	0
141EL PASO	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0

AVERAGE PERCENT CHANGE	-16.	-54.	-70.	-74.	-74.
NO. OF CITIES ABOVE STD	51	6	0	0	0
TOTAL NO. OF VIOLATIONS	832	20	0	0	0

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

DATE 120479

LINEAR ROLLBACK

STRATEGY: 4 95% RED GROWTH RATE SCENARIO: 1 LO

COB AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9. PPM)

PROJECTED

REGION	BASE YEAR	BASE CONC	BKGD	1980 CONC	1980 NUMB	1985 CONC	1985 NUMB	1990 CONC	1990 NUMB	1995 CONC	1995 NUMB	1999 CONC	1999 NUMB
073BIRMINGHAM,AL	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
090FAIRBANKS,AK	1976	25.	1.	21.	63	11.	4	8.	0	7.	0	8.	0
020ANCHORAGE,AK	1976	18.	1.	15.	18	8.	0	5.	0	5.	0	5.	0
013PHOENIX	1976	20.	1.	17.	31	9.	0	7.	0	7.	0	7.	0
019TUCSON	1976	15.	1.	13.	8	7.	0	5.	0	5.	0	5.	0
001BRIDGEPORT,CT	1976	32.	1.	26.	109	13.	8	8.	0	7.	0	7.	0
003HARTFORD	1976	15.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
009NEW HAVEN	1976	13.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
001WASH., D.C.	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	4.	0
121ATLANTA	1976	19.	1.	16.	22	8.	0	5.	0	5.	0	5.	0
001BOISE,ID	1976	18.	1.	15.	19	8.	0	6.	0	5.	0	5.	0
031CHICAGO	1976	21.	1.	18.	35	10.	1	6.	0	5.	0	4.	0
097INDIANAPOLIS	1976	13.	1.	11.	3	6.	0	4.	0	4.	0	4.	0
153DES MOINES	1976	16.	1.	14.	13	8.	0	5.	0	4.	0	4.	0
173WICHITA	1976	15.	1.	13.	8	8.	0	5.	0	4.	0	4.	0
111LOUISVILLE	1976	24.	1.	20.	52	11.	2	7.	0	6.	0	6.	0
510BALTIMORE	1976	16.	1.	13.	10	7.	0	4.	0	4.	0	4.	0
119BOSTON	1976	17.	1.	14.	14	7.	0	5.	0	4.	0	4.	0
163DETROIT	1976	13.	1.	11.	3	6.	0	4.	0	3.	0	3.	0
149SAGNINAW,MI	1976	18.	1.	15.	19	8.	0	5.	0	4.	0	4.	0
053MINN-ST.PAUL	1976	17.	1.	14.	13	8.	0	5.	0	4.	0	4.	0
510ST. LOUIS	1976	17.	1.	14.	16	8.	0	5.	0	4.	0	4.	0
003LAS VEGAS	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0
061NEW YORK CITY	1976	23.	1.	20.	50	11.	4	8.	0	7.	0	7.	0
119CHARLOTTE,N.C.	1976	14.	1.	12.	7	7.	0	4.	0	4.	0	3.	0
035CLEVELAND	1976	11.	1.	10.	1	5.	0	4.	0	3.	0	3.	0
061CINCINNATI	1976	16.	1.	13.	10	7.	0	5.	0	4.	0	4.	0
113DAYTON	1976	20.	1.	17.	29	9.	0	6.	0	5.	0	5.	0
051PORTLAND,OR	1976	19.	1.	16.	23	9.	0	5.	0	5.	0	5.	0
101PHILADELPHIA	1976	14.	1.	12.	6	7.	0	4.	0	4.	0	4.	0
003PITTSBURG	1976	21.	1.	18.	36	9.	0	6.	0	5.	0	5.	0
007PROVIDENCE,RI	1976	17.	1.	14.	14	8.	0	5.	0	4.	0	4.	0
157MEMPHIS	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
037NASHVILLE	1976	17.	1.	14.	15	7.	0	5.	0	4.	0	4.	0
093KNOXVILLE	1976	14.	1.	11.	4	6.	0	4.	0	4.	0	4.	0
201HOUSTON	1976	12.	1.	10.	2	6.	0	4.	0	3.	0	3.	0
760RICHMOND	1976	16.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
710NORFOLK,VA	1976	16.	1.	13.	9	7.	0	4.	0	4.	0	4.	0
063SPOKANE	1976	19.	1.	16.	24	8.	0	5.	0	5.	0	5.	0
033SEATTLE	1976	16.	1.	14.	12	7.	0	5.	0	4.	0	4.	0
079MILWAUKEE	1976	14.	1.	12.	5	6.	0	4.	0	4.	0	4.	0
031JACKSONVILLE,FL	1976	11.	1.	10.	1	5.	0	3.	0	3.	0	3.	0
109ROCHESTER,MN	1976	14.	1.	12.	5	7.	0	4.	0	4.	0	4.	0
137DULUTH	1976	15.	1.	13.	9	7.	0	5.	0	4.	0	4.	0

DATE 120479

HEAVY DUTY GAS STANDARD AIR QUALITY PROJECTIONS

005OMAHA	1976	16.	1.	14.	12	8.	0	5.	0	4.	0	4.	0
001ALBUQUERQUE	1976	22.	1.	18.	38	9.	0	6.	0	6.	0	5.	0
095TOLEDO	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	4.	0
153AKRON	1976	16.	1.	13.	10	7.	0	5.	0	4.	0	4.	0
109OKLAHOMA CITY	1976	11.	1.	10.	1	6.	0	4.	0	3.	0	3.	0
143TULSA	1976	11.	1.	10.	1	6.	0	4.	0	3.	0	3.	0
049COLUMBUS.OH	1976	11.	1.	9.	0	5.	0	3.	0	3.	0	3.	0
141EL PASO	1976	12.	1.	10.	2	5.	0	4.	0	3.	0	3.	0

AVERAGE PERCENT CHANGE	-16.	-54.	-71.	-74.	-74.
NO. OF CITIES ABOVE STD	51	5	0	0	0
TOTAL NO. OF VIOLATIONS	832	19	0	0	0

APPENDIX B

REGIONAL AIR OUALITY PROJECTIONS

AVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR NMHC HYDROCARBON
(1000 TONS/YR)

AQCR	REGION NAME	OI	LDV	LT-TRKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
005	MOBILE-PENSACOL	.15	75.0 (28.2)	14.8 (5.6)	10.4 (3.9)	2.2 (.8)	.0 (.0)	.0 (.0)	165.2 (62.1)	266.6
041	E.CONNECTICUT	.23	13.7 (35.2)	2.6 (6.7)	.9 (2.3)	.2 (.5)	.0 (.0)	.0 (.0)	21.5 (55.3)	38.9
042	HARTFORD-NEW HA	.27	86.0 (28.3)	15.8 (5.2)	6.7 (2.2)	1.6 (.5)	.0 (.0)	.0 (.0)	193.4 (63.7)	303.5
043	NYC-NJ-CONN	.24	305.8 (22.5)	56.6 (4.2)	27.2 (2.0)	8.3 (.6)	.0 (.0)	.0 (.0)	961.6 (70.7)	1359.5
045	PHILADELPHIA	.26	153.2 (22.3)	28.4 (4.1)	27.0 (3.9)	5.4 (.8)	.0 (.0)	.0 (.0)	472.6 (68.8)	686.6
047	NAT.CAPITAL	.19	93.8 (37.8)	16.9 (6.8)	12.2 (4.9)	2.1 (.8)	.0 (.0)	.0 (.0)	123.1 (49.6)	248.1
067	CHICAGO	.20	191.2 (21.2)	35.8 (4.0)	50.2 (5.6)	5.4 (.6)	.0 (.0)	.0 (.0)	616.9 (68.6)	899.9
070	ST. LOUIS	.23	88.5 (27.9)	16.3 (5.1)	25.2 (7.9)	2.6 (.8)	.0 (.0)	.0 (.0)	185.0 (58.2)	317.6
078	LOUISVILLE-KY	.17	24.8 (21.9)	4.6 (4.1)	3.3 (2.9)	1.0 (.9)	.0 (.0)	.0 (.0)	79.7 (70.3)	113.4
079	CINCINNATI	.17	44.5 (29.9)	8.7 (5.9)	4.4 (2.2)	1.4 (.9)	.0 (.0)	.0 (.0)	134.3 (67.6)	198.7
080	INDIANAPOLIS	.17	43.9 (28.4)	8.2 (5.3)	6.3 (4.1)	1.7 (1.1)	.0 (.0)	.0 (.0)	94.4 (61.1)	154.5
099	S.CENT. KANSAS	.17	21.4 (13.8)	4.2 (2.7)	5.0 (3.2)	.7 (.5)	.0 (.0)	.0 (.0)	123.9 (79.8)	155.2
106	S. LA - SE TEXA	.14	105.3 (13.2)	19.3 (2.4)	10.1 (1.3)	3.4 (.4)	.0 (.0)	.0 (.0)	661.4 (82.7)	799.5
115	BALTIMORE	.23	56.0 (29.1)	10.6 (5.5)	7.1 (3.7)	1.2 (.6)	.0 (.0)	.0 (.0)	117.3 (61.0)	192.2
118	CET. MASS	.16	14.0 (20.5)	3.4 (5.0)	2.2 (3.2)	.2 (.3)	.0 (.0)	.0 (.0)	44.1 (64.9)	67.9
119	BOSTON	.16	74.1 (29.0)	13.6 (5.1)	9.6 (3.8)	1.3 (.5)	.0 (.0)	.0 (.0)	166.3 (62.8)	264.9

HEAVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL

DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR NMHC HYDROCARBON
(1000 TONS/YR)

AQCR	REGION NAME	03	LDV	LTRUCKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
239	SE WISCONSIN	.23	56.1 (15.7)	10.3 (2.9)	7.4 (2.1)	1.8 (.5)	.0 (.0)	.0 (.0)	281.0 (78.8)	356.6
004	BIRMINGHAM	.15	35.3 (23.4)	6.5 (4.3)	6.9 (4.6)	1.2 (.8)	.0 (.0)	.0 (.0)	101.2 (67.0)	151.1
015	PHOENIX-TUCSON	.14	33.1 (24.5)	6.0 (4.4)	.2 (.1)	2.5 (1.8)	.0 (.0)	.0 (.0)	93.4 (69.1)	135.2
016	C.ARKANSAS	.13	28.0 (30.0)	4.9 (5.7)	2.6 (3.0)	1.2 (1.4)	.0 (.0)	.0 (.0)	52.0 (60.0)	86.7
018	MEMPHIS	.14	24.4 (28.3)	4.4 (5.1)	2.2 (2.6)	1.3 (1.5)	.0 (.0)	.0 (.0)	53.9 (62.5)	86.2
022	SHREVEPORT	.14	57.2 (24.3)	11.0 (4.7)	4.8 (2.0)	1.4 (.6)	.0 (.0)	.0 (.0)	160.6 (68.3)	235.0
049	JACKSONVILLE.FL	.13	56.8 (34.1)	10.3 (6.2)	10.2 (6.1)	1.1 (.7)	.0 (.0)	.0 (.0)	88.2 (52.9)	166.6
052	W.CENT. FLORIDA	.14	57.6 (36.5)	10.1 (6.4)	10.4 (6.6)	1.2 (.8)	.0 (.0)	.0 (.0)	78.4 (49.7)	157.7
056	ATLANTA	.14	74.7 (37.9)	13.9 (7.1)	2.8 (1.4)	2.6 (1.3)	.0 (.0)	.0 (.0)	102.9 (52.3)	196.9
073	ROCKFORD.ILL.	.14	16.7 (25.2)	3.1 (4.7)	3.6 (5.4)	.5 (.8)	.0 (.0)	.0 (.0)	42.5 (64.0)	66.4
122	CENT.MICH	.13	67.2 (26.0)	12.6 (4.9)	9.2 (3.6)	1.2 (.5)	.0 (.0)	.0 (.0)	168.4 (65.1)	258.6
124	TOLEDO	.14	21.0 (23.1)	3.9 (4.3)	1.9 (2.1)	.7 (.8)	.0 (.0)	.0 (.0)	63.6 (69.8)	91.1
128	SE MINN-LA CROS	.13	34.3 (29.3)	6.7 (5.7)	5.9 (5.0)	.9 (.8)	.0 (.0)	.0 (.0)	69.1 (59.1)	116.9
152	ALBUQUERQUE	.14	19.9 (48.4)	3.5 (8.8)	.0 (.0)	1.3 (3.2)	.0 (.0)	.0 (.0)	16.3 (39.7)	41.1
160	GENESSE-FINGER	.14	30.1 (23.7)	5.6 (4.4)	3.6 (2.8)	.3 (.2)	.0 (.0)	.0 (.0)	87.5 (68.8)	127.1
161	HUDSON VALLEY	.14	59.3 (38.3)	11.1 (7.2)	6.6 (4.3)	.4 (.3)	.0 (.0)	.0 (.0)	77.4 (50.0)	154.8

HEAVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL

DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR NMHC HYDROCARBON
(1000 TONS/YR)

AQCR	REGION NAME	O3	LDV	LTRUCKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
167	CHARLOTTE,NC	.14	33.0 (24.8)	6.3 (4.7)	7.1 (5.3)	1.1 (.8)	.0 (.0)	.0 (.0)	85.4 (64.3)	132.9
186	TULSA	.14	20.3 (21.9)	5.3 (5.7)	10.0 (10.8)	1.0 (1.1)	.0 (.0)	.0 (.0)	56.0 (60.5)	92.6
193	PORTLAND, OR	.13	67.3 (30.4)	12.6 (5.7)	9.7 (4.4)	2.6 (1.2)	.0 (.0)	.0 (.0)	129.5 (58.4)	221.7
195	CENTRAL PA	.13	23.7 (27.8)	4.4 (5.2)	2.9 (3.4)	.9 (1.1)	.0 (.0)	.0 (.0)	53.3 (62.6)	85.2
200	COLUMBIA, SC	.14	11.5 (29.3)	2.3 (5.8)	.6 (1.5)	.5 (1.3)	.0 (.0)	.0 (.0)	24.6 (62.1)	39.6
217	SAN ANTONIO, TX	.15	46.2 (39.5)	8.5 (7.3)	3.1 (2.6)	1.5 (1.3)	.0 (.0)	.0 (.0)	57.8 (49.4)	117.1
223	HAMTON RDS, VA	.15	36.0 (35.4)	6.4 (6.3)	1.5 (1.5)	1.2 (1.2)	.0 (.0)	.0 (.0)	56.6 (55.7)	101.7
229	PUGET SOUND, WA	.13	67.9 (36.6)	12.4 (6.7)	6.7 (3.6)	2.0 (1.1)	.0 (.0)	.0 (.0)	96.6 (52.0)	185.6
230	S.CENT. WASH.	.15	14.4 (38.2)	2.4 (7.4)	1.3 (3.3)	.3 (.8)	.0 (.0)	.0 (.0)	19.6 (50.3)	39.0
TOTALS			3270.3	605.8	423.8	97.9	.0	.0	8869.2	13267.0
PERCENT TOTALS			(24.6)	(4.6)	(3.2)	(.7)	(.0)	(.0)	(66.9)	

HEAVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR CARBON MONOXIDE
(1000 TONS/YR)

AQCR	REGION NAME	COR	LDV	LTRUCKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
073	BIRMINGHAM,AL	12.20	188.2 (42.8)	32.9 (7.5)	59.9 (13.6)	2.0 (.5)	.0 (.0)	.0 (.0)	157.0 (35.7)	440.0
090	FAIRBANKS,AK	25.40	15.6 (58.9)	2.7 (10.2)	1.0 (3.8)	.4 (1.5)	.0 (.0)	.0 (.0)	6.8 (25.7)	26.5
020	ANCHORAGE,AK	18.00	64.6 (74.2)	11.1 (12.7)	3.2 (3.7)	1.1 (1.3)	.0 (.0)	.0 (.0)	7.1 (8.2)	87.1
013	PHOENIX	20.40	150.4 (54.9)	26.1 (9.5)	1.6 (.6)	4.4 (1.6)	.0 (.0)	.0 (.0)	91.5 (33.4)	274.0
019	TUCSON	15.20	61.0 (58.4)	10.8 (10.0)	.7 (.6)	1.5 (1.4)	.0 (.0)	.0 (.0)	31.9 (29.6)	107.9
001	BRIDGEPORT,CT	31.80	254.1 (74.4)	45.2 (13.2)	22.4 (6.6)	1.2 (.4)	.0 (.0)	.0 (.0)	18.5 (5.4)	341.4
003	HARTFORD	15.40	250.9 (73.5)	43.8 (12.8)	25.3 (7.4)	1.2 (.4)	.0 (.0)	.0 (.0)	20.0 (5.9)	341.2
009	NEW HAVEN	12.50	215.5 (73.0)	37.9 (12.8)	21.4 (7.2)	1.2 (.4)	.0 (.0)	.0 (.0)	19.4 (6.6)	295.4
001	WASH., D.C.	18.80	140.2 (68.4)	25.1 (12.2)	18.1 (8.8)	.8 (.4)	.0 (.0)	.0 (.0)	20.8 (10.1)	205.0
121	ATLANTA	19.00	247.4 (75.9)	44.8 (13.7)	6.0 (1.8)	2.2 (.7)	.0 (.0)	.0 (.0)	25.5 (7.8)	325.9
001	BOISE,ID	17.90	37.3 (52.5)	6.7 (9.4)	6.4 (9.0)	.3 (.4)	.0 (.0)	.0 (.0)	20.4 (28.7)	71.1
031	CHICAGO	20.80	1283.0 (54.4)	232.8 (9.9)	478.7 (20.3)	7.8 (.3)	.0 (.0)	.0 (.0)	357.5 (15.1)	2359.8
097	INDIANAPOLIS	13.10	272.9 (63.0)	48.7 (11.2)	57.4 (13.2)	3.3 (.8)	.0 (.0)	.0 (.0)	51.0 (11.8)	433.3
153	DES MOINES	16.40	122.4 (57.8)	21.1 (10.0)	29.7 (14.0)	1.2 (.6)	.0 (.0)	.0 (.0)	37.4 (17.7)	211.8
173	WICHITA	14.90	119.6 (46.5)	21.5 (8.4)	41.6 (16.2)	1.2 (.5)	.0 (.0)	.0 (.0)	73.5 (28.6)	257.4
111	LOUISVILLE	23.80	191.2 (62.5)	32.9 (10.8)	35.8 (11.7)	2.0 (.7)	.0 (.0)	.0 (.0)	43.9 (14.4)	305.8

HEAVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR CARBON MONOXIDE
(1000 TONS/YR)

AQCR	REGION NAME	COR	LDV	LTRUCKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
510	BALTIMORE	15.70	193.7 (70.7)	34.2 (12.5)	23.9 (8.7)	1.4 (.5)	.0 (.0)	.0 (.0)	20.7 (7.6)	273.9
119	BOSTON	16.80	725.1 (67.6)	125.7 (11.7)	129.7 (12.1)	3.3 (.3)	.0 (.0)	.0 (.0)	89.3 (8.3)	1074.1
163	DETROIT	12.80	719.5 (56.5)	131.3 (10.3)	161.7 (12.7)	4.4 (.3)	.0 (.0)	.0 (.0)	257.3 (20.2)	1274.2
149	SAGNINAW.MI	17.90	72.9 (40.7)	13.4 (7.5)	17.0 (9.5)	.1 (.1)	.0 (.0)	.0 (.0)	75.9 (42.3)	179.3
053	MINN-ST.PAUL	16.60	285.8 (64.2)	48.5 (10.9)	62.1 (14.0)	2.5 (.6)	.0 (.0)	.0 (.0)	46.2 (10.4)	445.1
510	ST. LOUIS	17.09	297.7 (55.8)	51.7 (9.7)	127.8 (23.9)	1.7 (.3)	.0 (.0)	.0 (.0)	55.0 (10.3)	533.9
003	LAS VEGAS	12.40	134.0 (74.4)	24.6 (13.2)	7.0 (3.7)	1.8 (1.0)	.0 (.0)	.0 (.0)	14.4 (7.7)	186.8
061	NEW YORK CITY	23.10	68.5 (42.4)	12.3 (7.6)	12.8 (7.9)	1.2 (.7)	.0 (.0)	.0 (.0)	66.7 (41.3)	161.5
119	CHARLOTTE.N.C.	14.40	88.3 (54.2)	15.9 (9.8)	40.0 (24.6)	1.0 (.6)	.0 (.0)	.0 (.0)	17.6 (10.8)	162.8
035	CLEVELAND	11.40	332.3 (57.2)	56.2 (9.7)	40.8 (7.0)	4.6 (.8)	.0 (.0)	.0 (.0)	146.6 (25.3)	580.5
061	CINCINNATI	15.90	243.3 (64.6)	40.8 (10.8)	29.0 (7.7)	2.6 (.7)	.0 (.0)	.0 (.0)	61.2 (16.2)	376.9
113	DAYTON	20.10	142.8 (62.2)	24.1 (10.5)	17.0 (7.4)	1.7 (.7)	.0 (.0)	.0 (.0)	43.9 (19.1)	229.5
051	PORTLAND.OR	18.80	196.5 (64.0)	34.3 (11.2)	44.8 (14.6)	2.3 (.7)	.0 (.0)	.0 (.0)	28.9 (9.4)	306.8
101	PHILADELPHIA	14.50	544.3 (66.9)	96.4 (11.9)	106.8 (13.1)	5.2 (.6)	.0 (.0)	.0 (.0)	60.7 (7.5)	813.4
003	PITTSBURG	21.30	415.7 (53.9)	75.6 (9.8)	86.9 (11.3)	4.3 (.6)	.0 (.0)	.0 (.0)	188.4 (24.4)	770.9
007	PROVIDENCE.RI	16.80	149.0 (62.2)	27.0 (11.3)	43.9 (18.3)	.6 (.3)	.0 (.0)	.0 (.0)	19.0 (7.9)	239.5

HEAVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR CARBON MONOXIDE
(1000 TONS/YR)

AQCR	REGION NAME	COR	LDV	LT-TRUCKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
157	MEMPHIS	12.20	196.4 (63.3)	33.8 (10.9)	24.1 (7.8)	2.8 (.9)	.0 (.0)	.0 (.0)	53.4 (17.2)	310.5
037	NASHVILLE	17.10	144.6 (70.1)	25.2 (12.2)	17.6 (8.5)	1.8 (.9)	.0 (.0)	.0 (.0)	17.1 (8.3)	206.3
093	KNOXVILLE	13.70	94.8 (69.7)	16.4 (12.0)	11.7 (8.6)	1.0 (.7)	.0 (.0)	.0 (.0)	12.2 (9.0)	136.1
201	HOUSTON	12.40	631.9 (61.2)	111.5 (10.8)	67.5 (6.5)	6.0 (.6)	.0 (.0)	.0 (.0)	216.2 (20.9)	1033.1
760	RICHMOND	15.70	96.4 (74.9)	17.5 (13.6)	7.9 (6.1)	.7 (.5)	.0 (.0)	.0 (.0)	6.2 (4.8)	128.7
710	NORFOLK,VA	15.70	89.9 (73.2)	15.3 (12.5)	6.0 (4.9)	.8 (.7)	.0 (.0)	.0 (.0)	10.8 (8.8)	122.8
063	SPOKANE	19.20	113.1 (53.4)	19.7 (9.3)	16.0 (7.6)	.8 (.4)	.0 (.0)	.0 (.0)	62.3 (29.4)	211.9
033	SEATTLE	16.40	400.9 (67.6)	69.9 (11.8)	56.8 (9.6)	3.2 (.5)	.0 (.0)	.0 (.0)	62.3 (10.5)	593.1
079	MILWAUKEE	14.00	329.0 (61.6)	56.7 (10.6)	45.7 (8.6)	2.9 (.5)	.0 (.0)	.0 (.0)	99.6 (18.7)	533.9
031	JACKSONVILLE,FL	11.30	153.6 (60.0)	26.9 (10.5)	44.2 (17.3)	1.0 (.4)	.0 (.0)	.0 (.0)	30.4 (11.9)	256.1
109	ROCHESTER,MN	14.00	26.4 (60.1)	4.6 (10.5)	5.9 (13.4)	.2 (.5)	.0 (.0)	.0 (.0)	6.8 (15.5)	43.9
137	DULUTH	15.10	68.1 (49.9)	12.0 (8.8)	14.8 (10.8)	.5 (.4)	.0 (.0)	.0 (.0)	41.1 (30.1)	136.5
005	OMAHA	15.90	110.3 (53.9)	19.0 (9.3)	55.6 (27.2)	1.7 (.8)	.0 (.0)	.0 (.0)	18.0 (8.8)	204.6
001	ALBUQUERQUE	21.90	195.0 (77.4)	35.5 (14.1)	8.6 (3.4)	3.8 (1.5)	.0 (.0)	.0 (.0)	9.1 (3.6)	252.0
095	TOLEDO	12.20	114.1 (57.6)	19.4 (9.8)	13.6 (6.9)	1.4 (.7)	.0 (.0)	.0 (.0)	49.5 (25.0)	198.0
153	AKRON	15.70	149.8 (65.8)	25.1 (11.0)	18.1 (7.9)	1.6 (.7)	.0 (.0)	.0 (.0)	33.2 (14.6)	227.8

HEAVY DUTY GAS STANDARD BASE YEAR INVENTORY - FINAL DATE 120479

DISTRIBUTION OF MOBILE AND POINT SOURCE EMISSIONS

FOR CARBON MONOXIDE
(1000 TONS/YR)

AQCR	REGION NAME	COV	LDV	LT-TRUCKS	HDV GAS	HDV DIE			NON-HIGHWAY	REGION TOTAL
109	OKLAHOMA CITY	11.10	93.1 (44.5)	19.1 (9.1)	73.1 (34.9)	1.9 (.9)	.0 (.0)	.0 (.0)	22.1 (10.6)	209.3
143	TULSA	11.20	59.7 (28.9)	12.2 (5.9)	46.8 (22.7)	1.4 (.7)	.0 (.0)	.0 (.0)	86.3 (41.8)	206.4
049	COLUMBUS,OH	11.00	236.9 (64.8)	39.9 (10.9)	28.5 (7.8)	2.5 (.7)	.0 (.0)	.0 (.0)	57.7 (15.8)	365.5
141	EL PASO	12.30	171.4 (65.8)	30.9 (11.9)	17.1 (6.6)	2.1 (.8)	.0 (.0)	.0 (.0)	38.9 (14.9)	260.4
TOTALS			11707.1	2066.7	2340.0	108.6	.0	.0	3107.2	19329.6
PERCENT TOTALS			(60.6)	(10.7)	(12.1)	(.6)	(.0)	(.0)	(16.1)	

APPENDIX C

FUTURE YEAR INVENTORIES TOTALED OVER REGIONS

HEAVY DUTY GAS STANDARD INVENTORY PROJECTIONS - FINAL TOTALS DATE 120479

*** EMISSIONS INVENTORY FOR MODIFIED ROLLBACK AIR QUALITY IMPACT ANALYSIS ***

LOCATION: AQCR-TOTALS

POLLUTANT: NMHC

EMISSIONS (1000 TONS/YEAR)

			MOBILE SOURCES					STATIONARY SOURCES						REGION
			LDV	LTRUCKS	HDV GAS	HDV DIE			PETROL	STORAGE	INDUST	SOLVENT	INCOMPT	OTHER	TOTAL
BASE YEAR:		1976	3270.0	606.0	424.0	98.0	.0	.0	301.0	1136.0	808.0	5590.0	426.0	608.0	13267.
STRATEGY	GROWTH RATE	PROJ YEAR													
NO STD	LO	1980	2336.1	518.2	340.2	119.1	.0	.0	266.2	1017.8	838.5	5169.2	426.0	608.0	11639.
NO STD	LO	1985	1016.1	296.9	226.2	152.0	.0	.0	43.5	271.5	670.0	3036.0	426.0	608.0	6746.
NO STD	LO	1990	647.2	135.9	164.0	144.0	.0	.0	51.1	299.8	776.0	2934.9	426.0	608.0	6236.
NO STD	LO	1995	619.3	88.3	132.9	247.6	.0	.0	58.8	331.0	904.3	2882.2	426.0	608.0	6298.
NO STD	LO	1999	670.3	66.9	117.2	301.0	.0	.0	65.3	358.3	1025.5	2872.7	426.0	608.0	6511.
NO STD	HI	1980	2429.1	538.8	340.2	119.1	.0	.0	268.1	1027.6	868.8	5217.3	443.3	684.3	11937.
NO STD	HI	1985	1109.3	324.2	226.2	152.0	.0	.0	48.5	296.4	753.7	3158.6	465.9	793.3	7328.
NO STD	HI	1990	741.9	155.8	164.0	144.0	.0	.0	57.8	343.7	936.6	3150.8	489.7	919.7	7155.
NO STD	HI	1995	745.4	106.3	132.9	247.6	.0	.0	72.2	398.4	1172.9	3213.9	514.7	1066.1	7670.
NO STD	HI	1999	839.0	83.7	117.2	301.0	.0	.0	83.2	448.4	1410.1	3316.2	535.6	1199.9	8334.
85% RED	LO	1980	2336.1	518.2	340.2	119.1	.0	.0	266.2	1017.8	838.5	5169.2	426.0	608.0	11639.
85% RED	LO	1985	1016.1	296.9	212.1	150.5	.0	.0	43.5	271.5	670.0	3036.0	426.0	608.0	6731.
85% RED	LO	1990	647.2	135.9	95.9	186.3	.0	.0	51.1	299.8	776.0	2934.9	426.0	608.0	6161.
85% RED	LO	1995	619.3	88.3	52.0	235.3	.0	.0	58.8	331.0	904.3	2882.2	426.0	608.0	6205.
85% RED	LO	1999	670.3	66.9	34.6	286.0	.0	.0	65.3	358.3	1025.5	2872.7	426.0	608.0	6414.
85% RED	HI	1980	2429.1	538.8	340.2	119.1	.0	.0	268.1	1027.6	868.8	5217.3	443.3	684.3	11937.
85% RED	HI	1985	1109.3	324.2	212.1	150.5	.0	.0	48.5	296.4	753.7	3158.6	465.9	793.3	7313.
85% RED	HI	1990	741.9	155.8	95.9	186.3	.0	.0	59.8	343.7	936.6	3150.8	489.7	919.7	7080.
85% RED	HI	1995	745.4	106.3	52.0	235.3	.0	.0	72.2	398.4	1172.9	3213.9	514.7	1066.1	7577.
85% RED	HI	1999	839.0	83.7	34.6	286.0	.0	.0	83.2	448.4	1410.1	3316.2	535.6	1199.9	8237.
90% RED	LO	1980	2336.1	518.2	340.2	119.1	.0	.0	266.2	1017.8	838.5	5169.2	426.0	608.0	11639.
90% RED	LO	1985	1016.1	296.9	208.6	136.8	.0	.0	43.5	271.5	670.0	3036.0	426.0	608.0	6713.
90% RED	LO	1990	647.2	135.9	92.7	135.8	.0	.0	51.1	299.8	776.0	2934.9	426.0	608.0	6107.
90% RED	LO	1995	619.3	88.3	46.2	181.0	.0	.0	58.8	331.0	904.3	2882.2	426.0	608.0	6125.
90% RED	LO	1999	670.3	66.9	29.3	142.6	.0	.0	65.3	358.3	1025.5	2872.7	426.0	608.0	6315.
90% RED	HI	1980	2429.1	538.8	340.2	119.1	.0	.0	268.1	1027.6	868.8	5217.3	443.3	684.3	11937.
90% RED	HI	1985	1109.3	324.2	208.6	136.8	.0	.0	48.5	296.4	753.7	3158.6	465.9	793.3	7295.
90% RED	HI	1990	741.9	155.8	92.7	135.8	.0	.0	59.8	343.7	936.6	3150.8	489.7	919.7	7026.
90% RED	HI	1995	745.4	106.3	46.2	181.0	.0	.0	72.2	398.4	1172.9	3213.9	514.7	1066.1	7497.
90% RED	HI	1999	839.0	83.7	29.3	142.6	.0	.0	83.2	448.4	1410.1	3316.2	535.6	1199.9	8138.
95% RED	LO	1980	2336.1	518.2	340.2	119.1	.0	.0	266.2	1017.8	838.5	5169.2	426.0	608.0	11639.
95% RED	LO	1985	1016.1	296.9	208.6	123.1	.0	.0	43.5	271.5	670.0	3036.0	426.0	608.0	6700.
95% RED	LO	1990	647.2	135.9	86.3	83.4	.0	.0	51.1	299.8	776.0	2934.9	426.0	608.0	6049.
95% RED	LO	1995	619.3	88.3	37.5	86.7	.0	.0	58.8	331.0	904.3	2882.2	426.0	608.0	6042.
95% RED	LO	1999	670.3	66.9	21.3	102.3	.0	.0	65.3	358.3	1025.5	2872.7	426.0	608.0	6217.
95% RED	HI	1980	2429.1	538.8	340.2	119.1	.0	.0	268.1	1027.6	868.8	5217.3	443.3	684.3	11937.
95% RED	HI	1985	1109.3	324.2	208.6	123.1	.0	.0	48.5	296.4	753.7	3158.6	465.9	793.3	7282.
95% RED	HI	1990	741.9	155.8	86.3	83.4	.0	.0	59.8	343.7	936.6	3150.8	489.7	919.7	6968.

HEAVY DUTY GAS STANDARD INVENTORY PROJECTIONS - FINAL TOTALS DATE 120479

95% RED	HI	1995	745.4	106.3	37.5	56.7	.0	.0	72.2	348.4	1172.9	3213.9	514.7	1066.1	7414.
95% RED	HI	1999	839.0	83.7	21.3	102.3	.0	.0	83.2	448.4	1410.1	3316.2	535.6	1199.9	8040.

HEAVY DUTY GAS STANDARD INVENTORY PROJECTIONS - FINAL TOTALS DATE 120479

*** EMISSIONS INVENTORY FOR MODIFIED ROLLBACK AIR QUALITY IMPACT ANALYSIS ***

LOCATION: COUNTY-TOTALS

POLLUTANT: CO

EMISSIONS (1000 TONS/YEAR)

			MOBILE SOURCES						STATIONARY SOURCES					REGION TOTAL
			LDV	LTRUCKS	HDV GAS	HDV DIE			INCOMPT	AREA				
BASE YEAR:		1976	11707.0	2067.0	2440.0	104.0	.0	.0	1257.0	1850.0	.0	.0	.0	19330.
STRATEGY	GROWTH RATE	PROJ YEAR												
NO STD	LO	1980	9136.8	1935.8	2179.9	132.5	.0	.0	1211.9	1783.6	.0	.0	.0	16381.
NO STD	LO	1985	3585.1	1152.9	1990.0	169.1	.0	.0	1168.3	1719.4	.0	.0	.0	9785.
NO STD	LO	1990	2153.1	546.5	1816.4	215.8	.0	.0	1172.2	1725.2	.0	.0	.0	7629.
NO STD	LO	1995	2121.5	324.6	1641.9	275.4	.0	.0	1143.5	1682.9	.0	.0	.0	7190.
NO STD	LO	1999	2207.6	259.9	1514.4	334.8	.0	.0	1167.3	1718.0	.0	.0	.0	7202.
85% RED	LO	1980	9136.8	1935.8	2179.9	132.5	.0	.0	1211.9	1783.6	.0	.0	.0	16381.
85% RED	LO	1985	3585.1	1152.9	1716.9	169.1	.0	.0	1168.3	1719.4	.0	.0	.0	9512.
85% RED	LO	1990	2153.1	546.5	775.4	215.8	.0	.0	1172.2	1725.2	.0	.0	.0	6589.
85% RED	LO	1995	2121.5	324.6	398.5	275.4	.0	.0	1143.5	1682.9	.0	.0	.0	5946.
85% RED	LO	1999	2207.6	259.9	279.4	334.8	.0	.0	1167.3	1718.0	.0	.0	.0	5967.
90% RED	LO	1980	9136.8	1935.8	2179.9	132.5	.0	.0	1211.9	1783.6	.0	.0	.0	16381.
90% RED	LO	1985	3585.1	1152.9	1716.9	169.1	.0	.0	1168.3	1719.4	.0	.0	.0	9512.
90% RED	LO	1990	2153.1	546.5	740.7	215.8	.0	.0	1172.2	1725.2	.0	.0	.0	6553.
90% RED	LO	1995	2121.5	324.6	350.7	275.4	.0	.0	1143.5	1682.9	.0	.0	.0	5899.
90% RED	LO	1999	2207.6	259.9	235.3	334.8	.0	.0	1167.3	1718.0	.0	.0	.0	5923.
95% RED	LO	1980	9136.8	1935.8	2179.9	132.5	.0	.0	1211.9	1783.6	.0	.0	.0	16381.
95% RED	LO	1985	3585.1	1152.9	1697.3	169.1	.0	.0	1168.3	1719.4	.0	.0	.0	9492.
95% RED	LO	1990	2153.1	546.5	705.4	215.8	.0	.0	1172.2	1725.2	.0	.0	.0	6518.
95% RED	LO	1995	2121.5	324.6	318.8	275.4	.0	.0	1143.5	1682.9	.0	.0	.0	5867.
95% RED	LO	1999	2207.6	259.9	191.1	334.8	.0	.0	1167.3	1718.0	.0	.0	.0	5879.